



HUMAN RELATIONS

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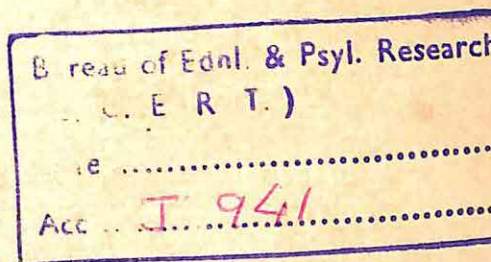
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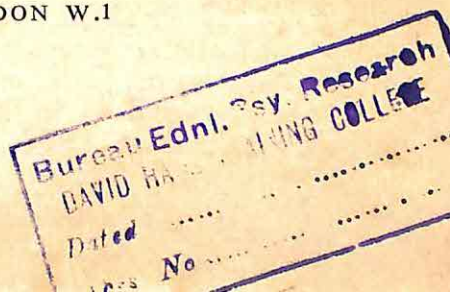
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life of the indigenous community, but he does not try to direct the course of political and social events. He stands outside the government hierarchy. At the beginning of our field trip, Firth and I adopted this role, and even later on, when a fast-changing situation forced other roles upon us, we kept track of our original purpose in coming to Tikopia.

It was apparent soon after we arrived that we would not be able to stand outside the situation entirely, and we agreed that we should help the Tikopia in their difficult position. Firth at that time discussed with the District Commissioner the possible effects of drought following the hurricane. As the situation developed on Tikopia, we were asked by Government to assume temporarily the role of executive officers of Government. Later on, especially after Firth's departure, I realized that I was studying social processes not only as they were going on but as I was affecting them. I had indirectly entered Tikopia politics, trying to achieve ends I thought best, and in so doing, I learned at first hand some of the intricacies of their political manœuvres. On one occasion, I intervened directly, taking temporary command of the situation.

Gradually I developed what might be called an operational research role, in that I interpreted Government and the Tikopia to each other, but in so doing, I tried not to determine policy for either side in relation to the other. *Thus the unit of study became Government and the Tikopia considered as parts of a single social system.* I was forced to deal with problems on the spot as they came up, instead of saving up a solution for a set of recommendations to Government after I had left the field. I worked towards the goal of achieving better communication between Government and Tikopia when I would no longer be there.

My assumption of an operational role was made easier by the fact that Firth had already made a systematic study of the society; thus a corpus of data on Tikopia, basic for understanding the functioning of the society, was already in existence so that I did not have to learn about kinship, political, and religious structure from scratch. My task was also made easier by the fact that the rapport established by Firth in 1929 and his introduction of me to the Tikopia in 1952 greatly facilitated the Tikopia's acceptance of me as a participant in their affairs.

Operational research has certain limitations. It requires that both Government and indigenous community should recognize that problems exist and that help is needed. There must at least be general agreement between them on aims and solutions. It cannot be carried out if the two parties are practically at war. In any case it is restricted to study of processes or part-processes that take place during the period of the anthropologist's field work.

Having discussed briefly the various roles I played on Tikopia, I shall now give a chronological account of the events that led to my assumption of them. Only those events that illustrate the various elements of the relationships of anthropologist, Government, and Tikopia to one another will be included. In the course of the narrative I shall indicate some of my interpretations of these events.³

3. The data in this paper have been selected primarily from the diary I kept during the course of the expedition. This is one of the invaluable field techniques taught me by Firth. It provided a good check and supplement to the interviews and observations recorded in the notebooks of the expedition. Many of the interpretations of these data were made after I had left Tikopia. I shall indicate in the text which interpretations were made in the field as the events occurred. Some field data are not available to me because of the accidental destruction of some of my notebooks on the return voyage. Most of this material is not relevant to the present paper.

The aim of Government in the British Solomon Islands Protectorate is to translate such ideas as the security, development, and welfare of the people into practical policies. The administration endeavours to let each separate group of peoples or tribes regulate its internal affairs as much as possible providing that they do not conflict with the public health programme, development of communications, etc., or violate Government's concepts of 'good government' (Colonial Reports, 1). The High Commissioner for the Western Pacific who took office in 1952 actively promoted native councils, local administration of justice, and the development of educational facilities. Government cooperated with commercial concerns in their enterprises, but carefully controlled recruiting of native labour so as not to damage the indigenous economy of the islands. Missions were left alone to their religious pursuits and the education of natives. The High Commissioner, Sir Robert Stanley, expressed the tone of the present-day Government policy in these words: 'The principles of good government remain tested and unchanged—to remind us that patience, tolerance and humanity are the true signposts of culture and civilization' (High Commissioner, 11). Those who have observed the development of the British Solomon Islands in recent years know that these are not idle words.

Tikopia is a tiny Polynesian outlier, isolated and tucked away in the south-east corner of the Protectorate. The island is about six square miles in size. The population was roughly 1,700 in 1952. The island is not suitable for European plantations and it has no resources that would permit export trade. The first regular contacts with Europeans began in the early twentieth century with the periodic visits of mission ships. Government did not show the flag on the island until the early 1930s, although a few visits had been made by Government before this time. In the post-war period, Government called more often, perhaps once a year. Controlled recruitment was permitted, and two big recruitments were made on the island before 1952 by Lever Brothers' Plantations; on these occasions the men were absent from Tikopia for a year. Labour, that is men, is the only export of Tikopia. A few of the young men were trained in Honiara, the capital of the Protectorate, as government carpenters, dressers (medical orderlies), and policemen. Education was left in the hands of the native Melanesian priest, installed there by the Melanesian Mission of the Church of England. The 'school' on the island taught a Melanesian language, Mota, the lingua franca of the Mission.

By virtue of its topography the island is divided into two parts—Raveŋa and Faea. This natural division is reflected socially in the factionalism and rivalry between the inhabitants of Raveŋa and Faea. There are four major kin groups, which may be termed patrilineal clans. The clans are further divided into lineages or 'houses'. Social and economic relations are governed very largely by principles of kinship. Even the anthropologists were assigned a kinship status so that they could be fitted into the system. Firth had been assigned kinship status in 1929. He was 'son' to the premier chief of the island and 'brother' to the heir apparent, the eldest son of the chief. I was 'brother' to the third chief, and to this third chief in turn Firth was 'father'. My connection to Firth's 'brother', the heir apparent of the premier chief, was that of *tau soa*, a traditional, stylized, and intimate form of friendship (Firth, 4). These pseudo-adoptions and assigned statuses brought us into working social relationships with everyone on the island.

Each clan has its chief, and traditionally he is both its ritual and political head. In theory the chiefs own all the land of Tikopia. Although the four chiefs are ranked in importance, the first chief, the Ariki Kafika, should be considered as *primus inter*

good-nature, and hospitality of the people. Government officers responded in kind to the gentleness, cordiality, and meticulous manners of the Tikopia chiefs.

These, then, were the idyllic states of mind of Tikopia and Government about each other early in 1952. Each side idealized the other.

About January 26, 1952, approximately seven weeks before our arrival, catastrophe struck the island. A hurricane destroyed the entire coconut and breadfruit crops and flooded various areas of this island. A tidal wave inundated Faea, the western portion of the island. On our arrival the Tikopia were subsisting mainly on the remnants of the crops damaged by the hurricane. Coconuts, for example, could be salvaged and stored, but breadfruit had to be eaten before it spoiled; root crops such as taro, manioc, and sweet potato had to be torn up from the ground and eaten, since their growth was being stunted through the pollution of the soil by salt spray.

The island looked like an area that has been devastated by flash fire; wreckage of trees was strewn about the paths and beaches. It was self-evident to Mr. Wallington, the District Commissioner, who brought Firth and myself to the island, that a serious food shortage would soon confront the Tikopia. The D.C. inquired about the damage, and said that he would do what he could to help. The Tikopia did not ask for aid in their meeting with the D.C., nor did they express any great concern over their future. This was not a denial of the seriousness of their situation, which they realized only too well. There were diverse opinions, however, on the time of recovery, which could mean the difference between famine and a mere shortage of food. Other factors inhibited a direct and public request for relief. Customs of hospitality required them to feed their visitors, and they would have felt ashamed to ask food of the visitors they were supposed to feed. Even if they had been starving at that moment, it would have been very difficult for them to understand that Government could have helped to the extent of providing enough food for all of them. The traditional solution to such a situation—although there had not been a famine of this severity within living memory—was not to bring food in but to move people away.

Fortunately Firth and I had brought not only ample food supplies for ourselves but also a radio-telephone wireless (Firth anticipated food might be scarce). We were thus able to communicate daily with Honiara and with the District Station at Kira-kira, San Cristoval. The D.C. asked us to keep him informed of the progress of the situation. Government thus began to depend on communication with us in evaluating the seriousness of the situation and in their formulation of plans to meet it.

The same ship that brought us to the island brought home on leave a Tikopia carpenter, Robinson Vaka, who was employed by the hospital at Honiara. Although he was only about twenty-seven, he had achieved the status of a *maru* through his ambition, skill, association with Europeans, and through his kinship relation with the Ariki Taumako, the third chief of the island. Robinson brought back with him the news that wages of £10 a month or more could be earned in the New Hebrides by plantation labourers in contrast to £2. 10. 0 plus rations, which was the standard wage in the British Solomon Islands Protectorate. The rumour was true but not in all respects. When the world price of copra fell, the wages of the New Hebrideans dropped more than proportionately, whereas in the B.S.I.P. copra had a guaranteed price and wages were constant. The priest of the Mission, who had come to Tikopia years before from the Banks Islands in the New Hebrides (a British-French con-

dominium), wished Tikopia to be tied to the New Hebrides rather than to the British Solomon Islands Protectorate. He and his sons and Robinson convinced three of the chiefs and most of the *maru* that the salvation of the island lay in the New Hebrides, where the high wages would permit them to ship home large quantities of food. We told Government these views by wireless, and Government suggested food relief. The Tikopia wished it known that they had no desire for food, since a relief ship would not be a permanent solution and they wished instead to be recruited for labour in the New Hebrides. But among the proponents of this scheme there was considerable divergence of view in the matter of allegiance; the Mission priest and his family wished Tikopia to come under the political jurisdiction of the New Hebrides, whereas others wished only to work there. Here we have a highly factionalized community faced with the problem of developing a united attitude to disaster.

At this stage we did not try to influence Tikopia opinion, nor did we offer to Government our private opinion that we thought the Tikopia had a good case. On the basis of our reports of the famine and the New Hebrides scheme, Government decided that a special visit was required by the D.C., a Medical Officer, and an Agricultural Officer, to assess the situation. Early in May these officials landed on the Faea side of the island, which provides the only good anchorage. They brought with them five hundred coconuts and four tons of root crops. The attempt to land and distribute them fairly was completely unsuccessful because women and children pilfered the long boats before they reached shore. This caused resentment in Ravega, on the south shore of the island, where it was claimed that only Faea had benefited. The Medical Officer examined a sample of the population of Tikopia and reported that there was no malaria. He then conducted a tour of the island with the Agricultural Officer and reported that it would be some time before a recovery could be expected. The D.C. held a meeting with the chiefs and the *maru* and a crowd of commoners, mainly young men and followers of Robinson, to discuss the vital issue of recruitment for the New Hebrides. The Tikopia were adamant in their demand for labour service in the New Hebrides. The D.C. was unable to grant their request because of the long-range policy of the Government for the economic development of the Solomon Islands, but he was unable to explain this complicated policy to the Tikopia at this time. (In private conversation Firth offered the opinion to the D.C. that the Tikopia seemed to have a good case in terms of pure wages level.) The chiefs brought the discussion of the New Hebrides issue to an abrupt end without disputing or protesting at the D.C.'s decision. 'Right! This is the land of Kavemanu (Government). We obey him.'

The D.C. then said he was going to the small neighbouring island of Anuta, 80 miles away, where many Tikopia have kinship connections and all wish to visit at some time or other.⁵ He said he was willing to transport some Tikopia there and back, but because his ship was so small he could take very few. There was an outburst of protest, mainly from commoners, to whom it was obvious that only chiefs and *maru* would make the trip. Their shouting was hushed up by the *maru*. The point here is that the crowd remained quiet, in spite of their frustration, over the issue of the New Hebrides, which had been excitedly discussed before the D.C.'s arrival; instead, the outburst came over how many people would go to Anuta, even though, being a maritime people, they understood that it was reasonable for the

5. See Firth (9).

general distribution of rice, when all the bags had been pulled away from the clearing where the distribution was taking place, the next task was the distribution of approximately one thousand coconuts. Firth felt that we had done enough in distributing the rice and he gave them the task of sorting out the coconuts among themselves. We felt that while rice was an unknown food and people might therefore have difficulty in dividing it, coconuts were traditional food for which there were set ways of distribution. In accordance with custom, three or four *maru* came forward and the crowd gathered around the pile of coconuts. Again according to custom the chiefs were given their share first. Then the anthropologists were given five each. Allocations were then begun to each *maru*. The crowd could not wait. A mild riot followed, and the coconuts were grabbed indiscriminately by *maru* and commoners alike. The seriousness of this social breach was best indicated by the shouting and abuse some *maru* directed at the crowd, screaming 'Are you not ashamed to behave in such a violent manner before the eyes of your chiefs?' Firth and I were shocked by this disorder, and for the first time we saw that perhaps the peaceful Tikopia could no longer cope with the situation by traditional means. This one incident did not give enough evidence to prove the case, but it appeared that Firth's temporary assumption of an executive role had been more effective than leaving the distribution to the Tikopia themselves. In the days immediately following the distribution we received only two complaints that an unfair division of bags of rice had been made in the villages. This indicated that the people accepted our village allocations and the portions given to them by their *maru*. But later on in September there were accusations that the *maru* had divided the rice unfairly. A few people also complained that Firth should have given more rice to some villages. I asked, 'Why didn't you complain to Firth at the time?' and the answer always was, 'I would have been ashamed to.'

On August 2nd Firth left the island amidst expressions of extreme affection and sorrow for the European who was *tau soa*. The Tikopia cried because they were losing a 'friend' in the deep emotional Tikopia sense, a friend who had helped them in their time of need and trouble.

During August the food situation deteriorated, the death-rate increased, and theft became extremely widespread and serious. Theft consisted mainly of stealing food from orchards by groups of three or four people during the night. Some of the more responsible *maru* were apprehensive because of the possibility of open fighting if a group of thieves were caught in the act by a group of people patrolling their orchards. Excited cries of '*Iefu!*', the traditional indication of theft in one's orchard, echoed and re-echoed throughout Tikopia. Some of those who had been robbed resorted to another traditional expression of anger and loss by returning to the village and beating on their house with a stick, shouting abuse at the unknown thief. Apart from the composing of songs of derision, these are the only traditional sanctions against theft in Tikopia (Firth, 1949). But they were no longer effective. Nearly everyone was stealing and nearly everyone was robbed. One of the most responsible *maru*, Pa Iarumea, brother of the Ariki Taumako (the third chief), prohibited the shouting and beating of houses because of theft. He told me privately that although the reason he had given to the crowd was that no one had a right to shout while they knew that their kin were hungry and therefore stealing, and all this because they were all lazy; his real reason for this *tapu* was that he feared that the excitement might lead to open violence and killing.

During August, the *fono* began to be used more and more as a mechanism of

social control. Later on, when measures were put into effect, the *fono* was cited as the source of authority. Instead of meeting only four or five times a year, the *fono* was convened every Sunday by the *maru*. Exhortations were made to the people to stop stealing food, and they were told to work harder in their fields. Two things emerged: first, the Tikopia recognized the fact of overpopulation and tried to meet it by having a law announced in the *fono* that man and wife should use their common mat only once a week. Second, some *maru* suggested that those who had no food should not steal but should sit in their houses and die, and others suggested that if people had no food, then there might be a 'land for them beyond the sea', and they should take to their canoes. While the commoners received these announcements in glum silence, no one obeyed them, even though everyone realized that the temper of those in authority was growing short. These statements in the *fono* were symptomatic of the growing tension on the island. Whereas such things had been mentioned in private discussion two months earlier, they were now a public issue.

It is noteworthy that none of the proposals made at this time provided relief in the immediate situation. They were either long-range policies, or they provided no constructive solution because no new sanctions or organization were developed to put the proposals into effect. It was clear that a serious crisis confronted the Tikopia. They had no traditional solutions for dealing with an acute food shortage coupled with overpopulation. The prohibition against sexual intercourse would be effective in the long term, but it did not contribute much to the immediate problem. I think it represented an almost panic-stricken substitution for the controls abolished by the Mission.

No one seriously expected the commoners to sit and die. What was communicated explicitly here was that the chiefly families would be the last to die. The implication was that special groups, namely commoners, would have to be sacrificed to guarantee the survival of the chiefs and *maru*. In fact everyone, commoners included, felt that it would be unthinkable for the chiefs to die. Theoretically the chiefly families own the land and there is a mystical connection between the well-being of the chiefs and the well-being of the land. But in spite of consensus on the necessity of preserving the chiefs, the commoners had no intention of sacrificing themselves if they could help it.

The only practical measure that was tried without any lead from the *fono* was the pooling of food by pairs or triads of households. This was customary, but it became widely practised at this time, especially in Faea, where the food situation was somewhat better than in Raveja. In Raveja pooling was tried, but it failed when the shortage became more acute. Each household then fended for itself. Kin groups atomized into smaller and smaller units. Formal canons of hospitality with respect to food were abandoned. The antagonism between brothers, who traditionally compete for the family resources, was intensified and quarrels between brothers became very frequent. Throughout this period, however, even children did not lose their good manners. No matter how hungry they were, they did not snatch or grab food at the evening meal, which was often the only family meal of the day.

Another attempt at a solution to the immediate situation was made by two *maru*. They asked me privately if Government would send more rice. I said I did not know.

During August I played the role of observer only, and I did not communicate the extent of theft to the Government. Nor did I attempt to influence the Tikopia or suggest a course of action. This was a period when I was learning the language and the intricacies of the society. I felt that the limitations of my knowledge did not

permit me to volunteer information that could not be classified as factual and easily verified. This was my escape to scientific reality: when my intellectual and emotional uncertainty were too great, I withdrew to the seeming safety of facts and careful observation; I did not try to interpret the full significance of what I saw, and I communicated very little to Government or Tikopia. Although I did not realize it at the time, I think I was more tense and anxious during this period than at any time earlier or later. It was at the end of this period that I had my first attack of malaria.

In spite of my reticence, I received a message by wireless that the new High Commissioner for the Western Pacific was informed through normal channels of Tikopia's hurricane and food shortage, and that he was going to make Tikopia his place of entry to the British Solomon Islands so that he could acquaint himself personally with the situation as soon as possible. I was appointed temporarily as liaison officer to assist the D.C. in receiving His Excellency at Tikopia. Again the anthropologist was sanctioned to carry a temporary official role, and I suggested to Government and to the Tikopia how the visit might best be conducted. This involved not only communicating information to both sides, but also interpreting the cultural symbols of each to the other. I explained the status of the High Commissioner to the Tikopia in terms of their own concepts of rank; they spoke of him as '*ariki maurunga*', meaning roughly 'the highest chief'. They were beginning to realize that there were different ranks within Government. The title 'the Queen's representative' proved to be untranslatable, however. The Tikopia could only conceive of it in kinship terms; their interpretation was that he was the Queen's mother's brother or classificatory brother or that somehow he was of 'one house' with the Queen.

I also suggested to the chiefs that they might meet before the D.C.'s arrival to agree on what they should say to him. I thought this would save time and confusion at the meeting, and would give the Government a summary picture of the island's problems. The reason for this was that the chiefs had complained that canons of courtesy and difference of language made it difficult for them to express their minds before the D.C. sailed away. The chiefs and their most important *maru* met and drew up a list of proposals for the D.C. at the meeting, which I attended. I stressed the point that the D.C. wanted to hear what they had to say as well as to tell them his views. I said they should work out proposals on which they could all agree. But I did not tell them what I thought they should say to the D.C.

Similarly I informed the High Commissioner that he should expect a traditional exchange of gifts with the chiefs, the proffering of food in accordance with the tradition of hospitality to strangers. I informed the D.C. that the shouts and wild gestures of greeting for the H.C. should not be interpreted as expressions of hostility.

The D.C. arrived first, on August 24th, and the chiefs made three requests: first, they asked that plantation wages should be raised from £2.10.0 to £5.0.0, as this would enable them to buy food; secondly, they asked for two dressers to be stationed on Tikopia instead of one; and thirdly, they asked for a teacher of English and specified that they did not mean pidgin English, because if they spoke English they would be able to get better jobs and in addition the chiefs would be able to communicate better with Government.

These highly intelligent requests contrast markedly with their inability to cope with the famine. The famine generated a sort of panic. The Tikopia were intelligent enough to see that their food resources were hopelessly inadequate in relation to

their population. They were very gloomy about the future. Their own solution of sending men to the New Hebrides had been blocked. Another shipment of rice would help, but it would not be a long-term solution. But their feelings of hopelessness and panic, combined with traditional forms of courtesy and self-sufficiency, made it impossible for them to make a strong request to the D.C. even for temporary relief. An additional factor was that firm and unifying leadership was lacking. The situation was ripe for a leader of exceptional talents, and in fact a charismatic leader emerged a little later.

The D.C., a different one from the previous visitors, rejected the chiefs' first request without explanation. While he was in the middle of discussing the other two requests, a huge shoal of mackerel swam into the reef and the starving population lost all interests in politics and went after the fish. The only four remaining Tikopia at the meeting-ground, the chiefs, courteously kept their seats, but their attention was riveted not on the D.C. but on the fish.

A day later the H.C. arrived in a driving downpour and while I was busy explaining to the Tikopia that he would probably wait till the rain was over before coming ashore, he began walking up the bank to the first village in Faea. The Tikopia responded immediately and greeted him with a traditional dance. It was obvious at once to the H.C. and to the other members of his party that there were no coconuts on the trees, a very strange sight in a tropical island. The H.C. visited each chief, using me as his interpreter. The conversation was roughly the same with each, and the answers to his questions consisted of 'We are short of food. The people are hungry. We apologize for the meagreness of our hospitality.' When the H.C. was in the house of the premier chief, the Ariki Kafika, I introduced Pa Fenuatara as one of the most respected men on the island, and one who could give accurate factual information and a well-considered opinion. Pa Fenuatara told the H.C. that the people were very hungry, many would die, and the shortage would not end for at least ten more months. In Tikopia terms he was right. Acute famine ended in February, but food became plentiful again when the first breadfruit appeared in June 1953. He based his estimate on the slow rate at which the crops appeared to be growing. I thought he was unduly pessimistic.

The H.C. and his party, the D.C., and I then retired to my house to discuss the situation. The H.C. made a brief review, stating that conditions were indeed critical and it was obvious that the Tikopia needed help. He then asked me for my estimate of the time of recovery. I told him, on the basis of my conversations with the Tikopia, that I thought the acute phase would be over in December. Again I was wrong, because the root crops were growing very slowly and not all the coconut trees had budded. To have made an accurate prediction in this matter, I would have needed a knowledge of agronomy that I did not possess. The information I gave was a considered study of native opinion, which in itself was divergent. In future I shall be more cautious about making predictions on the basis of social data when a knowledge of non-social facts is also required.

I pointed out to the H.C. that in my opinion relief was necessary for two reasons: first, to permit crops in the ground to mature and secondly, to cut down the widespread theft, which might lead to disorder. The H.C. asked what had happened in previous hurricanes. I gave him the answer that the Ariki Kafika had given me. He was the oldest man on the island and had experienced two previous hurricanes of greater severity. 'But,' he explained, 'at that time there were not as many mouths to feed; and because there were fewer people, ground could lie fallow, and

taro could therefore grow to a bigger size; after a hurricane people were hungry only for a short time and no one died.' I explained to the H.C. that in the space of one generation the population of Tikopia had grown by approximately 450 according to Firth's census, because of the removal of population controls, which the Tikopia had recently abandoned on the insistence of the Mission. The H.C. asked me about possible violence, and why the Tikopia houses were so well armed with clubs, spears, bows, and arrows if they had not had a war for several generations. I replied briefly that clubs and spears were quite often ancestral symbols and that the bows and arrows were used to shoot fish. Regarding violence, I said that responsible *maru* were making every effort to prevent excitement of the population and that they also discouraged ideas of *forau* (suicide voyage). I had to point out, however, that there were symptoms of growing tension.

After some discussion with his staff, the H.C. decided that relief supplies should be sent to Tikopia but cautioned me that this was not a promise since he did not know what the resources of the Protectorate were or whether rice was available. If the rice were sent, he made the proviso that I must distribute it; without saying so directly I had unintentionally implied that the Tikopia again might not be able to make a distribution in an orderly fashion, for in another context I had explained that Tikopia society, as a result of the crisis, was atomizing into smaller and smaller kin groups, and that food exchange as a basis of mutual self-help was diminishing rapidly.

Throughout this encounter I helped the Tikopia to give their views by acting as their interpreter linguistically. But I also described the facts as I saw them, gave my personal interpretations, and made predictions. I felt very strongly that rice should be sent: but it was the H.C.'s responsibility, not mine, to make this decision. Only he had access to accurate knowledge of the resources of the Protectorate, and only he had sanction and authority to make such a decision. I therefore felt I should not ask him directly to send rice.

Later on, after a message had come by wireless that the rice was on its way, I called a meeting of chiefs, *maru*, and elders to discuss distribution, even though I had received clear sanction from Government to distribute it myself. It was my policy that the Tikopia should be as self-reliant as possible, but in addition, if I had to distribute the rice, I wished to have the sanction of the Tikopia as well as Government. Receiving full sanction and support by offering to abdicate responsibility is a well-known political manoeuvre in Tikopia. Pa Raroifi, a man who lived in Faea but was a ritual elder of Kafika clan, told me how it should be done. He explained that if I called a meeting of chiefs and *maru* and tried to give the job of distribution back to them, they would insist that I should do it, and would state the reasons publicly. At the meeting Pa Raroifi served as a one-man clique, giving loud assents when an argument was made in the right direction and shouting 'James is the man', or 'The rice is in James's hand.' As he had predicted, the chiefs and *maru* insisted that times were so desperate that only I could distribute the rice. I had food of my own so that I was known to be disinterested, and my status was so high that people would accept what I gave them. Eventually I accepted their views after getting their formal and public sanction.

After the meeting broke up that evening the Ariki Tafua and his *maru* and the elders from Faea, including Pa Raroifi, returned to the other side of the island. News of the meeting spread quickly in Raveja where the meeting had been held. An hour later I received an urgent message from Pa Raroifi that I must hurry to

Faea as the place was in an uproar and I was involved. When I got to Faea I found torches burning everywhere. Men were standing in front of their houses, their heads bound by string, which indicates readiness for violent action, brandishing clubs and spears and whooping 'Iefu!' The women were inside the houses wailing. Pa Raroifi hurried me to the nearest commoner, who asked me point-blank, 'James, is it true that you, the chiefs, and the *maru* have decided to send us out to sea?' I told him it was not true, that the chiefs, the *maru*, and I had discussed how to distribute the food that was to arrive soon. Pa Raroifi then suggested that I walk the entire length of Faea as a reassurance. Further on we met a group of armed Tafua *maru*, who explained that they had tried to tell everyone the truth but no one would believe them, so they had had to arm to defend their chief. I was joined for part of the way by the Ariki Tafua. We walked hand in hand, answering people's questions.

My reaction to all this was one of anger and annoyance, not fright, as it might well have been. I think this indicated that somehow I sensed that this uproar was not as serious as it seemed. I asked the origin of the rumour and was told it was a spirit medium. As I insisted on confronting him, the Ariki Tafua returned to his house. He knew I was angry and would make a scene, and since he had to remain peaceful and calm to everyone alike in order to reassure them, he could not afford to be associated with my anger. At the furthest end of Faea I found the medium. He had been possessed by a spirit and had informed the people assembled in the house of the plot of James, chiefs, and *maru*. When I entered the house I cursed him roundly. He reproached me, saying I should not talk that way to him. He said he did not know what the spirit had said. He had been told by the people after the spirit had left. If I waited, maybe the spirit would return and I could have it out with him. I said the chiefs and *maru* and Government were not going to drive the commoners out and that I was tired and was going home to bed. I did not want to cope with fresh accusations from a spirit.

But the spirit had spoken the fears of all of Faea through this medium. This incident demonstrated again that the Tikopia could become hysterical up to the point of violence without quite reaching it. It was evident that the commoners' anxiety about the chiefs and *maru* had reached a new pitch. But the suspicion now included Government and me as well. Through the medium, the commoners had forced a dramatic reassurance from me that I was not engaged in a plot to send them to sea, that I would support *them* as well as the chiefs. Perhaps I made a mistake by sending messages asking chiefs and *maru* and elders to the meeting without informing them fully of what was to be discussed. I did this because I wished to prevent wild rumours!

Seventeen tons of rice arrived in the first week of October and it was unloaded through the cooperation of the entire population. In distributing the rice I followed the policy laid down earlier by Firth, that of giving the rice all at once and not in daily doles, so that people would leave their crops alone. The seventeen tons of rice served the population's needs for one month and crops in the gardens and orchards matured very quickly.

Despite the rice, deaths continued at the rate of three a week and, even more serious, theft continued almost unabated. People were conserving their rice and living partly on what they stole at night. The anxiety to have a margin and to be prepared for the future was the motivation for this unseemly behaviour in a time of temporary plenty. It was apparent to all that the rice was a temporary expedient and that after it was finished there would still be a shortage of food. Theft was now

considered a major crime, no matter whose orchard was stolen from. Taking a man's food was now felt to be tantamount to taking the man's life. The dignity of the chiefs was also hurt, in that the repeated and public injunctions against theft made by the *maru*, the chiefs' brothers, were flagrantly disobeyed. Unrest continued.

With the rice, Robinson Vaka, the carpenter at Honiara, and John Fararava, a Tikopia dresser in the Honiara hospital, returned to the island. Their announced purposes were first, 'to put the island in order', and second, through an evangelical campaign to convert the remaining pagans to Christianity. Their unannounced purpose, revealed later, was to establish themselves as headmen of Faea and Raveja respectively. Tension was increased through the religious conflict, chiefs saw the two returned sophisticates as a challenge to their authority, and because of Robinson's and Fararava's status, ability, and skill in handling crowds, the Tikopia flocked to their *fono*.

One of their ideas was to meet the problem of theft with their conception of European justice, namely public execution. Two thieves who had been caught in the act were rapidly and excitedly sentenced to death. But immediately before their execution I intervened. I lost my temper and broke up the meeting. Robinson, Fararava, and three other *maru* who were conducting the meeting retired in confusion. I took the two prisoners to my house.

I sat in my house sadly reflecting that my role as an observer had come to an end. It had taken a long time, but at last I realized that this could not be an ordinary field trip. I was no longer just advising and interpreting. I had taken the situation into my own hands. (My actions were later communicated to Government and I was given retrospective sanction for the course of action I had followed.) I had a fleeting fantasy of retiring to the role of observer completely and letting the Tikopia solve the problem by killing each other off. Later on one of the D.C.s said that he too had had a fantasy of shutting Tikopia up for eighty years and letting them sort it out for themselves. It was obvious at last that, like civilized peoples in similar situations, Polynesians too could turn into savages. If Government and anthropologists had not been on the spot, I feel sure that the population would have been reduced by bloodshed and *forau* as well as by death from starvation. In the long run, this would have been a solution, but our moral values were so strong on this point that neither Government nor I could seriously consider abandoning the Tikopia in their immediate crisis and, in any case, once the flag had been shown on the island such a course of action could not be adopted. The situation was ironic because our efforts to help might be creating the conditions for the crisis to happen again in the future; but on this issue we accepted without question our moral compulsion to preserve life in the present.

The immediate situation and the succession of crises had been so overwhelming that I had not even thought of the obvious long-term solution, migration, as a practical possibility. It was not until several days after the crisis in the *fono* that it really occurred to me.

I saw that there were two rather conflicting tasks in front of me: to recover my former position as far as was possible, and to devise some policy or measure to prevent bloodshed while awaiting the arrival of Government to take the situation in hand. I decided that I had to remain in command, but that I would let the Tikopia deal with the situation themselves as much as possible. It was by now obvious that they needed some sort of emotional outlet in the form of punishment of thieves; I would set limits to violence and punishment, but I would not intervene again

directly if I could avoid it. In fact I only had to give direct orders once more, and on that occasion I made it clear that I was interpreting the policy of Government.

I turned the two prisoners over to Pa ʻŌarumea, the premier *maru* of the village I lived in, and informed him that in the eyes of Government he was responsible for their lives. He told me not to worry about them, they were in his care. He immediately took them to two stakes which had been set up as punishment for thieves, tied them up, sent word to all villagers that the ground was *tapu*, and that anyone who approached these prisoners would have to approach him first. Pa ʻŌarumea brought them food, and they were released from the stake a week later. Since the people's anger at thieves needed an outlet and the *maru* felt strongly that some deterrent was necessary, I permitted the stake to become an institution, with the proviso that no one should die at it. The area surrounding the stake was declared *tapu* by the *maru* and it could only be approached by Robinson or Pa ʻŌarumea. In some cases the deterrent quality of the stake could not compete with the pangs of hunger, and there were many people who found themselves at the stake repeatedly. Nevertheless, the prisoners were subjected to dreadful derision by the community. They were stigmatized 'forever' as thieves. They suffered terrible shame. All this gave the stake an enormously destructive psychological effect. It satisfied the desire for revenge against thieves. It gave those who were not caught a target for their hostility and a scapegoat for their own guilt at having stolen themselves.

The day after the 'evil *fono*' as the Tikopia called it, I had a meeting with Robinson, other *maru*, and Henry Oti, the Melanesian dresser. It may seem odd that I did not consult the chiefs, but the immediate problem was the *fono*, which is traditionally conducted in Raveʻa by the *maru* (see Firth, 7). Moreover, it was by this time becoming clear to me that whereas it was primarily the chiefs who dealt with external threats it was primarily the *maru* who dealt with internal crises. The chiefs directed measures for ensuring the safety of the people during the hurricane. Everyone took it for granted that it should be the chiefs who met and discussed important issues with visiting government officials. The points raised with Government at these meetings were discussed beforehand by chiefs and principal *maru*. Some *maru* might be present at meetings with Government, but they did not speak. But in the internal crisis, it was the *maru* who devised measures to cope with theft and threats of violence, and it was the *maru* who organized sanctions for their rulings and implemented them.

After much discussion at this meeting, we came to the inevitable answer: there was not enough food and there were too many people. That was why people were stealing, and because of the stealing, people were angry. The only solution they could offer was that I should ask Government to remove the thieves from the island. Their feeling seemed to be that once the thieves had gone, all the badness would go with them. Henry Oti said that there was a small island off Santa Cruz, his homeland, which was empty and fertile, and why could the thieves not be sent there. It was then that I conceived the idea of migration for the Tikopia and suggested to them that a new home might be found for them overseas. The enthusiastic reaction to this suggestion convinced me that this was the only policy. Their enthusiasm should not have surprised me, but I had forgotten that this was what in effect they had asked for several months previously in connection with the New Hebrides scheme. I sent word that I had an announcement to make to the population at the *fono* on the following Sunday. This gave me time to work out in my mind concrete

details of a migration plan, and to have private discussions with the chiefs and secure their agreement.

At the *fono* I made two points. First I said that the policy of Government was that men should live and not die, that was why it had sent the rice. While I remained on the island, no man would die through killing. Secondly, there was only one solution to the island's troubles and that was migration to a new fertile land. I knew of such a place and I was prepared to ask the Government to consider the matter. If I did this, would a number of families be willing to go? The cries of assent encouraged me to communicate this plan to the Government. At the beginning of my lengthy message my wireless broke down, and the message was not sent until three weeks later when the *Southern Cross* visited the island on behalf of the Government, who were worried by my silence.

In November, as a result of my communication with Government via the *Southern Cross*, Government sent Mr. Davidson, a D.C., to investigate conditions and to put concrete proposals before the Tikopia. On his arrival he and I held discussions and I outlined my analysis and suggestions to him. I said that the overriding question was one of public order. The current unrest was partly due to the confusion of authority created by the fact that five agencies were operating at once. First, there were the pagan Tikopia chiefs and their *maru*, who were showing no results in the control of theft. Secondly, there was the Mission, seeking to assert and exert political pressure through its evangelical movement and its interference at the present time with the custom of *inaki* (Firth, 6). This is essentially a religious custom involving the re-carpeting of ancestral temples of a clan. Each household of the clan must bring a *tapakau* (coconut-frond mat) to its chief's rite of re-carpeting. Thirdly, there were the two men, Robinson and Fararava, claiming superior knowledge gained from Europeans and demanding more rigorous action in the establishment of order. Fourthly, there was the power of the Government, standing for law and order, but, except for the occasions when its representatives were actually present, never explicitly stating if it were speaking through the chiefs, the Mission, or sophisticated men returning from abroad. Fifthly, there was the anthropologist, normally making every attempt to use the traditional structure of chiefs and *maru* to put into effect his own and Government's policy of maintaining order and avoiding bloodshed, but unexpectedly and suddenly assuming a temporary leadership role of direct command. I suggested that Government should clarify its position by defining its relationship to these various agencies and to the people of Tikopia.

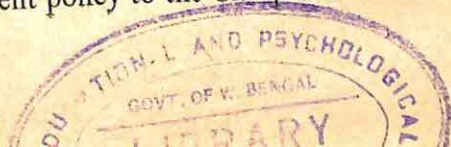
In the series of meetings that followed, the D.C. made it clear that Government 'spoke to the chiefs, the chiefs spoke to the people, and that was the *fono* of Government'. Furthermore, he cautioned the chiefs that they should accept no word as coming from Government if it were spoken by returned labour or even by Tikopia employed as government workers. The *fono* of Government could only be given by the D.C. or by a visiting government official. This basic formulation was an expression of government policy throughout a wide territory, but I told the D.C. how to phrase it in terms comprehensible to the Tikopia. To the question, did the Mission represent Government, the D.C. said no, only the Government could give the *fono*. He was then asked if he were a pagan. He replied no, he was a Christian and went to church on Sunday and listened to the words of the priest. This was seized upon by the Christians who told him that the Church then really gave the *fono* to Government. The D.C. was then forced to make a common Christian

admission, 'But I listen to the priest only on Sundays!' We quickly left that topic, and I am afraid that the relationship of European Church to European Government is still unclarified. But the Tikopia did grasp the idea that the Melanesian priest on Tikopia did not represent Government, and that the Mission could not interpret Government's policy.

Returning to the subject of the *inaki*: after the D.C. listened to complaints by the pagan chiefs in private interviews, I explained to him that the pagans were putting forth the concept of *inaki* in two meanings, first the religious and secondly as a token of political allegiance to the chief. I offered the opinion that the Mission in its missionary activity was entirely within its rights to attack a fundamental pagan custom, since its sole object on the island was the conversion of the population. I suppose it was inevitable, and perhaps I knew it would be so, that with the background of political disturbance in other parts of the Solomons the Government chose to take a serious view of interference by the Mission in a process of allegiance to established authority, especially so in the case of a primitive people beginning their first extensive contact with Europeans. My explanations of the *inaki* and the excitement and conflict generated by the evangelism influenced the D.C. to make a decision to take steps against the Mission. Again, I did not advise him directly to do this, but there was no doubt where my sympathies lay, and that my solution was implied in my interpretations.

Many other topics were discussed during Mr. Davidson's visit, but I include here only one, which illustrates a prediction in which, for a change, I was right. The problem of migration was discussed in detail both as to personnel and place. Agreement and willingness on the part of the Tikopia were expressed. Before the D.C. left, I emphasized strongly that from my knowledge of the temper of the Tikopia, the Government would have to work quickly to put into effect a plan of migration because, if the food situation improved even slightly, they would lose interest in leaving their homes. Unfortunately, the mechanics and finance of preparing a scheme involving the migration and establishment of 500 people is too complex to be accomplished quickly. I advanced the view that interest in migration would start to diminish after April 1953, when the food shortage would be alleviated somewhat; in July 1953 I attended my last meeting between the D.C. and the chiefs, and the Tikopia had lost all interest in the scheme.

The D.C. did not make a formal public definition of my relation to Government, about which I had been wondering, but I realized now that there was a tacit understanding both by Tikopia and by Government that I was interpreting each to the other not only linguistically but also politically and socially. My role was slowly being clarified for me. I was observer, communicator of bare facts, interpreter of facts, and occasionally I was temporary executive officer sanctioned by Government. But I was not a policy-maker for either side. I was helping them to make decisions and to clarify their relationship to each other. This was an operational research role, although I did not know the name at the time. The role was much easier to carry out when a government official was actually present on the island. When I was alone with the Tikopia, I could keep to the role as long as the crisis was not overwhelming. When the crisis was acute, I took it upon myself to interpret Government policy as I saw fit. At the 'evil *fono*' I had gone even further, acting spontaneously on my own initiative. This act was retrospectively sanctioned by Government, but it would be stretching the term 'interpretation' to its utmost limit to say that I was only interpreting Government policy to the Tikopia at this time.



Mr. Davidson's parting remark, given with a smile, was, 'At last I see a point to an anthropologist—it would be nice to have one of you on every island.' Apparently I had been of assistance to him not only in explaining and interpreting the immediate events but also in pointing out that the important conflicts such as that concerning the *inaki* were not necessarily the obvious ones.

After the 'evil *fono*' I did not seek to limit the activities of any individual *maru*, even though I felt Robinson and Fararava to be dangerous to the situation. My reasoning in this case was correct. As Fararava withdrew gradually from public politics, Robinson's activities became more constructive, and other *maru* assumed equal and traditionally legitimate responsibility in public affairs. Fararava, inept in his public and personal relationships, antagonized all the chiefs and several *maru* as well as me. He realized his decline. At the visit of the D.C., Mr. Davidson, in November, he had asked to return to Honiara, thus forestalling our requesting that he should be removed. Robinson, through his energy, skill, and sharp political acumen, rapidly emerged as leader of the *fono* in Raveja. He resorted to ingenious political manœuvres to smash opposition and consolidate his position. He cultivated the sympathy of the chiefs. He made it clear that he was not starting a revolution. 'The chiefs sit on my head,' he said, 'just as they did with my grandfather.' Thus he appealed to the Tikopia concept of the *strong maru*, and he emphasized his kinship claim to this status. He established himself as my bond friend and consulted me on important decisions and political moves. He made a series of suicide threats and one actual attempt in order to get people to insist that he was right in his actions. In the course of his furious career he devised a constructive policy for the protection of crops and the recovery of the island. He developed an almost martial law for the prevention of theft. He was indefatigable in his pursuit and punishment of thieves. Most important, he finally secured the support of everyone in Raveja, and eight months later his policy was shown to be successful. He had charisma.

During a period of several months following the 'evil *fono*', there were five suicide voyages, all unsuccessful. Three canoe-loads of people were retrieved at the edge of the reef. The two others were given up for lost at sea, but they returned after an absence of two days. Each of the attempted suicides had a different specific reason, but common to all was the feeling of rejection by the community. In some cases I was able to trace how the suicides were instigated by individuals. I think these attempted suicides indicated not only that the Tikopia were rattled but also that they were conducting dress rehearsals for the real thing, that is, for the expulsion of large groups. These attempts at suicide may also be interpreted as a demonstration that, despite Government and the frustrating European on the island, the society could still prove its power of life and death over its members. It was reassuring perhaps that it could still send people out to sea and then retrieve them, despite heavy European sanctions against such events.

In retrospect, it is apparent that by this time I had become enormously powerful in Tikopia eyes. I had the sanction and therefore the prestige of Government behind me. When I said there should be no violence, violence stopped. With my wireless I could summon longed-for ships, a wonderful occasion on Tikopia even when there was no famine. I could talk to Government and an unbelievable quantity of food would arrive. I suggested emigration to Government and it listened, whereas it had turned down a similar suggestion to move men off the island a few months earlier. The wealth of food and tobacco in our house was prodigious and there was no end to its source overseas.

Looking back, I also think the Tikopia felt such a man was wonderful to have on the island, if only he could be controlled. But at the same time, I think they resented me and my power and especially their own dependence on my goodwill. But none of this resentment against me was openly shown until April 1953. Firth and I were idealized in typical Tikopia fashion, and when an attack came, it was made indirectly, not to my face. No direct physical attack on us would have been possible, however resentful people felt, for fear of reprisal by Government. But in addition, any direct attack on people who were felt to have done so much good for the island would have aroused intolerable feelings of guilt. The Tikopia aim seemed to be to keep the good aspects of powerful Europeans but to keep them under control, just as in their society they constantly balanced the power of the chiefs and the exceptional leaders.

There were many attempts to get me to stay on the island, but in a more controllable form. There were repeated discussions about Firth, how he had left in 1929, not promising to come back, how the Mission put out a rumour that he was dead, which was later disproved by the captain of the *Southern Cross*, how they had waited so long for his return, how deep their disappointment was that when he did come he left so soon. And now I, having come to Tikopia during a very bad time, would never return. I too said I could not promise to return.

Two *maru* approached me separately and suggested that I should marry and make Tikopia my home. I could always visit my parents in Canada, but then I would have to return to my family on Tikopia. I pointed out that I had no land on Tikopia. But this had already been arranged. Equipping me with real kin and a vested interest in the island would make me stay, but even more important, it would bring me under control. With a network of kin I could not act as a free agent.

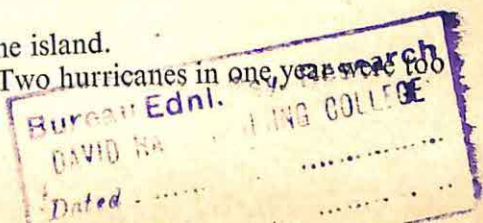
During one of my attacks of malaria I complained that people were singing during the night. I was assured that because of my illness extra care had been taken that no dancing should take place near my house. I was told that what I had heard were the gods who had come to sing to me. I was not sure whether the implication was that they had come to keep me company or to convey me to their heaven. After that encounter with the celestial choir I was determined to recover quickly. Perhaps it can be inferred from this that my death, if peaceful and natural, would have been a convenient way of getting rid of a disturbing presence on the island while at the same time retaining not only the good benefits of European power but also their own positive feelings towards me. If I remained on the island in the form of a spirit, I could scarcely reject them by leaving voluntarily to go to my home abroad, and I would always be available to them through the spirit medium.

Similar desires to keep the good aspects of a powerful but disturbing European were demonstrated again after both Firth and I had left the island. In 1955 similar proposals with different but equally unrealistic promises were made to Mr. de Burgh Thomas, the manager of the Levers' plantation, whom the Tikopia wished to keep on the island. He enjoyed a hectic but affectionate relationship with them. He helped them not only in their adaptation to conditions abroad but also with their food problems at home.

After November the situation steadily improved, and by the end of February 1953 there was a small surplus of bananas all over the island. The D.C. was on his way down with final plans for migration.

On March 2nd another hurricane struck the island.

Fifty per cent of the crops were damaged. Two hurricanes in one year were too



much for the Tikopia. Apathy reigned. But the reinforced power of chiefs and *maru* helped considerably in driving the people out to the fields to clear the debris and plant again. I reported the facts to the D.C. by wireless. At that time he was riding out the hurricane in a bay of the island of Vanikoro, 130 miles due west of Tikopia. From our discussions over the wireless he decided that he should bring two tons of rice immediately for the succour of forty families who had not fully recovered from the last hurricane. I asked him to leave the assessment of the total situation until he had arrived so that he could make his own judgment and communicate his recommendation to the High Commissioner. This was duly done and relief was recommended. The H.C. acted with amazing speed. In four days the decision was made, finance and the loading of supplies in Fiji and the New Hebrides were effected, and the shipment was on its way to Tikopia.

In a conversation at Honiara, Dobbs expressed the view that this was an example of the operational research role properly carried out. I had presented the facts, but even when the D.C. asked me directly if relief were necessary, I said that he himself should make that policy decision. By this time I had a better grasp of the role I should play, for when the H.C. arrived with the relief supplies, I continued to interpret to both sides linguistically and socially, without attempting to influence decisions of policy. Of course, this detachment and objectivity are more easily maintained when the situation is not too desperate. It seemed clear that the island would recover quickly from the second hurricane. It was also easier to carry out the operational research role while a D.C. was on the island, for I was then easily differentiated from Government. When Government left, the Tikopia differentiated Government and me; I became either a symbol or a representative of Government. There was no escape from this process of identification.

One of the commonly accepted canons of anthropological field work and of operational research is that the research worker should not let himself become identified with any one of the several groups or factions he is studying. But I found it extremely difficult not to identify myself with the pagans, and in the end it was clear to all where my sympathies lay. In part this happened because the split between the Mission and the pagan chiefs was so profound. Their antagonism was aggravated by the famine and the political crisis, which I felt the chiefs could solve more constructively than the Mission. And in part it was the result of my ethnographic interests and my own prejudice against evangelical Christianity and factionism.

Until April 1953 I maintained formally amicable relations with the Mission and the Christian chief, the Ariki Tafua, although I was living in Ravega, the pagan side of the island.⁶ I chose to live there because one of the principal concerns of my field work was the detailed observation and study of the six-week pagan cycle, the Work of the Gods. Not unnaturally I established close relationships with more people on the pagan side of the island than on the Christian side. In the eyes of the Mission, I had been 'captured' by the pagans, and worse still, the reinforcement of the traditional power structure by Government was attributed, with some justice, to me. They made their first move against me through the Christian chief who, by roundabout means and third parties, managed to get the message to me that he had been insulted by the fact that he had received only one bag of rice, which he

6. For a full analysis of the relation of Faea-Ravega factionalism to Christian conversion, see Raymond Firth (3).

considered meagre. Rice had become prestige food by this time, and the Ariki Tafua expected to get two bags rather than the one bag that was given to commoners. It was said that as a grand gesture he had given all his rice away to others. Through third parties and roundabout means I made inquiries and found that he had given out one quarter of his bag to a near relative. Standing fast on the European moral standard of fair distribution according to need in relief work, I did not send a second bag and, in a priggish and high-handed way, I did not attempt to placate him or explain why he could not have more. I thus made a bad mistake. I alienated the Ariki Tafua and my relationship with him became cool. By this time I felt irritated over spending so much of my time in local politics. At the time I did not fully realize how much I was learning about the workings of the society by taking an active part in it. I felt I had specific research tasks, such as the study of pagan ritual (see Firth, 6) and land tenure, for which I was answerable to Firth and the Australian National University. I had not set out to do operational research, nor did I feel free to pursue this task alone. I did not feel obliged to spend time with the Ariki Tafua or the Mission, whether I liked them or not.

When the Bishop came to Tikopia in April, the Mission gave him a letter in utmost secrecy. This letter contained a number of accusations against me, which fortunately were unfounded. Pa Fenuatara managed to squeeze the story out gradually from the Ariki Tafua. It appeared that the letter bore the 'signatures' of the pagan, non-literate chiefs. Pa Fenuatara reported all this to me and asked me what I was going to do. I replied 'Nothing.' The pagan chiefs and the majority of the Tikopia were outraged at the behaviour of the Ariki Tafua and the Mission, and a delegation of the chiefs insisted that I should send a message to the Government that they had composed. They offered this duplicity of the Christian chief and the Mission as final proof of the necessity for an English teacher, as they were at the mercy of the very limited few who could communicate in English or pidgin English with Government. They said that neither the Mission nor the Ariki Tafua represented their views, and that the letter had been sent without their knowledge. They said they were angry that a guest on Tikopia should be insulted in this manner, and that such behaviour was not the habit of the Tikopia, but was that of a foreigner residing on the island, the Mission priest, whom they wished to have removed. They said that they themselves now had the Ariki Tafua under control, and asked Government to deal with the priest. I sent this message and action was taken by Government to quiet the activities of the Mission.

This incident illustrates the hazards of identification with one faction or of being 'captured' by a group. Factionalism in small communities, primitive or European, is the signal to the anthropologist that he runs the risk, which may be practically impossible to avoid, of being caught up in the internal disputes of the community. It may be possible, without unfortunate consequences, to maintain private and sympathetic relationships with the other faction. But trouble will follow if these confidential relationships are especially concerned with the elements of discord that separate the factions. In a small community, whether a native village or Government establishment, one's preferences and special relationships cannot be concealed, especially if one must live directly in the community. Whether it knew it for a fact or not, the Mission quite correctly guessed that I was instrumental with Government in changing the power structure in Tikopia. It concluded that I had weakened its position, and I feel that, in view of its evangelical objectives, it quite rightly attacked me.

It is perhaps significant that this attack came when the worst of the crisis was over. People could not afford to attack me earlier because they were too dependent on my wireless and goodwill. I think also that my capture by the pagan faction gave the Tikopia a convenient way to express their mixed emotions towards me. To Faea I had become totally bad. In Ravega I was idealized.

This incident of the letter also illustrates the point that the Tikopia had at last worked out a relationship with Government and were acting on their own initiative. They had had a bewildering succession of 'Governments' in one year—one High Commissioner, four different District Commissioners, and various government specialists. In their view 'Government' still remained something that walked on two legs and visited on a ship. But the chiefs and *maru* realized that Government was an effective agency; it had recognized, sanctioned, and reinforced their traditional authority, and they were now making attempts to communicate with Government on their own initiative.

During the remainder of my stay there were other indications that the Tikopia were better able to communicate with Europeans for themselves and more able to make their own decisions of policy about them. In May the Lever Brothers' plantation manager visited Tikopia on the company's recruiting ship. The manager complained to me that the last two batches of Tikopia labour were by far the worst he had encountered on the many Lever plantations in Africa and Malaya. He was afraid that Lever Brothers would have to pass Tikopia by in the future in their labour recruitment. This of course would have been a serious economic blow to Tikopia. I explained to him that usually the eldest unmarried sons went abroad first, and these he had working for him. In addition, before a Tikopia man went abroad he required the assent and 'blessing' of his chief. It had come to my attention that many men had been held back by their families and chiefs because they were good agriculturalists or fishermen, that is, skilful and hard workers. I suggested that he ask the chiefs to make a selection for him, using a Tikopia whom the manager had in his employ as foreman as the recruiter. The same Tikopia was used as interpreter at the meeting with the chiefs at which the manager made his complaint, his threat, his offer, and asked for 65 men. He sailed away sourly with only 37.

Six weeks later I received a wireless message from the managing director, this time informing me that he was on his way to Tikopia and asking the chiefs to recruit another '65' men like the last batch. During his visit he explained to me that, despite linguistic difficulties and ignorance of European ways, in six weeks the 37 men were best labour. At the meeting with chiefs there was discussion of numbers for recruitment, frequency of recruitment, bonuses, working conditions, migration to Lever Brothers' plantation, and so forth, all in pidgin English with a Tikopia acting as interpreter. My only job on both these occasions was to explain to both sides the role, relations and objectives of those in charge, and to explain the reasons for certain kinds of behaviour. The Tikopia and Lever Brothers discussed all issues without asking me to be their private advocate. The Tikopia had finally understood that Europeans visited with a purpose, wished to hear the views of the chiefs and to come to an agreement on issues. The Tikopia now spoke up for themselves.

My task as an operational research worker, although far from complete, had reached the beginning of its end.

I did not go to Tikopia with the intention of doing operational research. I did

not carry it out consistently while I was there and I was not fully aware of its implications until after I had left. In Part II of this paper I shall discuss what seem to me to be the principles of operational research in the light of my experience. The structure and organization of Tikopia have already been discussed and analysed in detail by Firth. My attempt will be to show that carrying out operational research and becoming involved in the social processes one is studying can be helpful not only in dealing with practical problems but also in producing data of importance to the problems of anthropological theory.

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BIOGRAPHICAL NOTE

JAMES SPILLIUS, a social anthropologist, received his B.A. in Classics and his M.A. in Philosophy and Psychology from the University of Alberta, Edmonton, Canada. His first field work was conducted on the Northwest Coast of the U.S.A. and Canada among the Makah and Nootka Indians in the summers of 1950 and 1951. He was a member of the Tikopia Expedition, 1952-3, during which time, in addition to a fifteen months' stay on Tikopia, he visited several islands in the British Solomon Islands and the New Hebrides. He has held various research and teaching posts. He has held an Emslie Horniman Scholarship and at present a Wenner-Gren Fellowship at the London School of Economics and Political Science, where he is completing his Ph.D. thesis on 'Polynesian Political Systems'.

The Effects of Varied Clarity of Group Goal and Group Path upon the Individual and his Relation to his Group¹

BERTRAM H. RAVEN AND JAN RIETSEMA

MANY psychological theories begin with a consideration of the individual in relation to some goal, the drive that makes that goal attractive for him, and the path he must follow in order to attain it. It is therefore surprising that there has not been more systematic investigation of what happens when the goal is unclear for the individual or when the path is unstructured. Lewin (11, p. 255) pointed out the importance of clarity of the goal and the path for the security of the individual. When he is placed in 'unstructured surroundings', the person is uncertain and threatened since he cannot be sure that a given action will lead him toward a desired goal. He does not know whether the 'neighboring regions are dangerous or friendly'.

Lewin, Lippitt, and White (13) incorporate 'clarity of goal and path' into their operational distinctions between democratic and autocratic leaders. The democratic leader was instructed to give his followers a general perspective of the entire task during a preliminary discussion period. The general steps toward the goal were outlined and alternative procedures suggested. The autocratic leader dictated the steps to his followers one at a time, so that future steps toward the goal were to a large degree uncertain. Though the democratic groups proved more productive and better adjusted to the situation, it would not be possible to assess the extent to which this was due to the manipulation of clarity rather than to the many other differences between the leaders.

Cohen (5) presents one of the few studies that centers specifically on this problem. The subjects in his experiment were telephone operators who were being evaluated by a supervisor. The goal of the subject was thus clear—to get a good evaluation. However, the paths toward that goal were not always clear. In some conditions, each problem presented was difficult and did not suggest a clear solution. In other conditions, the solutions were relatively unambiguous. For some subjects, the supervisor would offer a single clue that would help her throughout the test session; for other subjects the clues were altered several times, without any apparent consistency. By varying consistency and ambiguity, Cohen created differing degrees of clarity of path for the individual in pursuit of his goal. He found that subjects whose cues were inconsistent and solutions ambiguous had greater difficulty adjusting to the situation than did those subjects who had a clear path toward

1. This research was conducted at the Sociologisch Research Centrum and the University at Nijmegen, Netherlands, where the first author was a Fulbright Research Scholar. It was supported by funds from the University and from the United States Educational Foundation in the Netherlands. For their assistance at various stages of this research, we are deeply indebted to Professor and Mrs. A. Oldendorff, Miss Meta Smit, and Messrs. G. Burm, T. Brand, J. Klopper, A. Gimbrère, J. v. d. Heijden, J. Vloed.

their goal. The 'unclear' subjects were less secure, had lower self-evaluations, were less motivated, and worked less efficiently.²

When an individual is in interactive relationship with others, he may be affected by the goals of this group. In such case, the investigator cannot get a clear conception of his life space without an understanding of the group space. Just as the individual's goals and the paths toward these goals may be unclear, the group space may be similarly unstructured. The members of the group may not know toward which goal they are working, nor the proper procedure for reaching these goals. The unclarity of the group situation is then reflected in the life space of the individual. However, consistent with a psychological approach, it is not the 'objective group' situation that is important, but the group space *as it exists for the individual*. Thus the group situation may be unclear for the individual member because the group itself is unclear as to its goals and paths; it may also be unclear for him because he is not aware of what the goals of the group are, nor of the paths toward this goal, even if these may be clear to the other group members.

Regardless of whether the group itself is unclear as to its goals or paths, or whether there has been a failure to communicate the paths and goals to the individual, we should expect this lack of structure to affect the individual's adjustment to the situation in much the same way as unclarity with respect to purely individual goals and paths. In addition, we expect that a lack of structure in the group situation would have implications for the relationship of the individual to his group.

The first type of group clarity was manipulated by Gerard (7). In the clear group condition, the subjects working in the group were told the performance of other groups, this providing a goal for their own performance. They were also told that they would work for fifteen minutes, which would make the group path more structured. The subjects in the unclear group situation were given neither of these items of information. The effects of these experimental variations were obscured somewhat by the introduction of manipulations of role clarity and status. Gerard found some evidence to the effect that high-status subjects in groups with unclear goals were more likely to try to define goals for their group. In contrast, low-status subjects whose group goals were unclear tended instead to withdraw from their group, to become dissatisfied with their roles, and to devalue their own effectiveness. With regard to their individual adjustment, the results for low-status subjects tend to parallel those that Cohen found for low-status subjects in his study (5).

The situation often encountered in the modern factory would serve as a good illustration of the second type of unclear group situation. The individual may feel that the larger organization of which he is a member does have a clear goal, namely the product of the factory, and also that there may be a clear path toward that goal. However, he himself often has no clear picture either of the goal or of the path. Though he knows what he must do for a relatively short time period, he is not clear about how this fits into the overall plan. The unstructuredness of the group situation has implications both for his individual adjustment and for his relationship with his group. As an individual, his working toward a clear goal increases interest in his work; a lack of structure in the situation makes his work less attractive, more threatening, and increases hostility. As a group member, a clear group

2. In his interpretation, Cohen placed particular stress on the fact that the supervisor had considerable power to punish or reward the subject. He attributed the insecurity and unfavorable adjustment of 'unclear' subjects largely to this power situation. We should place greater emphasis on the unclarity itself and consider power as an accentuating rather than a necessary condition.

goal and group path give meaning to his group membership, increase his attraction to his fellow-workers, make him more group-oriented, increase the power of the group over him.

We will attempt to study these and other effects of varied clarity of the group situation in the experiment that follows. We have taken care that all subjects see the group as having a clear goal and a clear path toward that goal. However, the subjects' own understanding of these goals and paths will be varied experimentally.

THE EXPERIMENT³

The subjects who took part in the experiment were all University of Nijmegen male students in their early years of undergraduate study. They were recruited either by phone or personal visit and had very little knowledge of the experiment prior to participation, except that the group session would last only two hours.

The data that follow are taken from 78 subjects, 39 in each of the two experimental conditions. Though four subjects took part in each session, care was taken that no subject knew the identity of the other three with whom he was working. A subject's-eye view of the situation will perhaps best present the experimental procedure:

On the subject's work table there is a small loudspeaker, a pair of scissors, and a stack of cards. On each card is printed identically six geometric figures, numbered and labeled for identification: 1. equilateral triangle, 2. right-angled triangle, 3. square, 4. diamond, 5. trapezoid, 6. rectangle. The only other person in the room is the observer, who also gives instructions:

'... your task will be cutting out figures. We want to know how fast and how accurately you cut while listening to voices and sounds coming through this loudspeaker... A messenger will come in regularly to collect the cut-out pieces and record the number... in order to make this more interesting, we decided to offer a pocket book or a box of cigarettes as a prize to the cutters who cut out the greatest *number of series*. A *series* consists of a set of all six geometric figures shown on each card. You may cut as you wish but you must cut complete series to qualify for the prize.

'In another room, there are three other subjects who will use the pieces you cut. From these cut-out pieces they will build certain things. These are the voices which you will hear coming over on this loudspeaker. The messenger will deliver the cut-out pieces to them. They can speak to you over this loudspeaker, but you cannot speak to them nor to the messenger.'

The amplifier system is switched on and the experimenter in the builders' room can be heard giving the three builders their last instructions, which fit in with what the cutter has already been told. For purposes of the study, the builders are arbitrarily given the names, Jan, Piet, and Henk, which they use in addressing one another for the remainder of the experiment. It becomes evident to the cutter that the builders are pasting pieces together with cellulose tape and then painting them. The cutter can hear them working and talking together.

3. The experiment was conducted entirely in Dutch. The experimental technique, its advantages and disadvantages, are discussed more fully elsewhere (14).

When four minutes of working-time have elapsed, the builders and the cutter are interrupted for a few questions. The assistant with the cutter asks him a question; the builders are told to write out their answers on paper. Meanwhile, the messenger comes in and picks up the pieces the cutter has already cut.

The subject now hears the messenger deliver the pieces to the builders in the other room. They examine the pieces and then say: 'Cutter, would you please concentrate only on squares and trapezoids. We need only these for our work now.'

The cutter is in some conflict. If he follows their instructions he will be falling behind in his efforts to win a prize. Furthermore, he was not instructed by the experimenter to conform to the requests of the builders. He looks at the experimental assistant inquisitively and gets a non-committal shrug.

After four minutes, there is another interruption for questions. Again the messenger collects the pieces. When the builders receive them, they again ask for more squares and trapezoids.

There is a total of twenty-eight minutes of working-time—seven four-minute periods separated by breaks of approximately one minute. The first period is a pre-induction period—since the cutter cuts without instructions from the builders. The six remaining periods we refer to as induction periods: two of these periods follow a request to cut only squares and trapezoids, two follow requests for trapezoids and equilateral triangles, two follow requests for equilateral triangles and squares. If the subject conforms completely, he will have cut only three of the six figures in the series throughout the six induction periods.

After the sixth induction period, there is an especially long interruption, during which a lengthy questionnaire is administered. The experiment is then declared completed and a full explanation is given to the subject.

He first learns that, though there were indeed four subjects present, all of them were cutters, each in a separate room with an experimental assistant. The builders whose voices were heard over the loudspeaker existed only on tape-recording. Before leaving, each subject is given a prize.

Constant Conditions

Two tape-recorded scripts were used, which were identical except for the independent variable—clarity of group goal and group path. The tape-recording technique⁴ allowed for a very high degree of constancy. The personalities of the builders remained the same for every subject. The words they used, with the exception of the independent variables, were precisely the same. Their requests were made in pretty much the same tone of voice. The timing was also kept constant. As far as the individual subject was concerned, the size of the group remained at exactly four, even if as many as three of the subjects failed to keep their appointment.

The influence attempts were introduced in both scripts to allow for tests of hypotheses regarding group influence in clear and unclear situations; subjects are very likely to accept inductions, particularly if they feel that the experimenter expects them to do so. The individual prize was therefore introduced in both conditions to create a force in the opposite direction and to make the expectations of the experimenter less clear, thus allowing for the differences in conditions to manifest themselves.

4. The suggestion for this technique came from articles by Blake and Brehm (3) and Blake and McConnell (4).

Manipulation of Independent Variable

The initial instructions of the observer-assistant were the same for all subjects. In the tape-recordings, the difference in experimental variations was created: in the *clear condition*, the subject was made aware of the group goal—building houses—the procedure by which these were built, as well as the individual cutter's relation to this procedure. In the *unclear condition*, both the group path and the group goal were left unclear. These differences were introduced by the voice of the experimenter, rather than by a decision of the builders. The structure of the two scripts remained parallel, and each reference to a 'house' in the clear script was balanced by a very vague reference to the product in the unclear script. At times, the unclear product was referred to as something flat (it could be pasted in a scrap-book), at other times it was solid or hollow.

To vary clarity of path, in the clear condition, the experimenter was heard to tell the builders the method by which the houses should be built—first floors, then walls, then roofs. The subject then had a clear picture of the specific regions in the group space as well as the exact ordering of these regions. He also had an idea about the length of the path—a time perspective. In answer to a question, the experimenter told the builders that the messenger would enter exactly ten times. (He actually entered seven times.) In the unclear condition, the experimenter suggested procedures, but in a manner too vague to be understood by the subject. Note that in each case, differences in clarity were introduced by the experimenter. The subjects could therefore not attribute differences in clarity to lack of intelligence on the part of the builders.

In summary, the subjects in the clear condition had a clear conception of the group goal, the regions in the path toward the goal, the ordering of the regions, and the length of the path. For the subjects in the unclear condition, the goal and paths remained relatively unstructured. In every other respect, the conditions faced by the subject were remarkably similar.⁵

Measurements

Three basic types of measurement were used—production, interview data, and observation data. First, the messenger, making his rounds at the end of each four minutes of working-time, would pick up the pieces cut by the subject and record them, keeping count of which geometric figures were cut. We could then calculate the percentage of the pieces cut that was requested by the builders. Secondly, the observer-assistant asked the subject one or two questions between work periods, and these interview data were coupled with answers to the extended questionnaire given at the end of the work session. Thirdly, immediately following the influence attempts from the builders, the observer-assistant would watch the subject's reactions to the inductions. He would observe not only which pieces were cut but also the general attitude of the subject. During each work period, the builders experienced some sort of sympathy-provoking situation. The observer, knowing the script, was prepared to rate the subjects' reactions to these. In addition, at the end of each period, the subject was rated on degree of task-involvement, general hostility, and general tension. All these ratings were on a seven-point scale. Unfortunately, insufficient time was allotted to training of the observers, and the observer

5. A condition of intermediate clarity—clear goal, unclear path—was prepared but never carried out because of limitations in time and number of available subjects.

data, with the exception of one of the sympathy ratings, showed differences that were not significant, though they tended in the predicted direction.

Effectiveness of Manipulations

To check on the effectiveness of the manipulation of the independent variables, we asked in the final questionnaire, 'To what extent is it clear to you what your group is building?' and 'To what extent is their plan clear to you?' The comparison of the distribution of responses along a seven-point scale of clarity showed that these distributions were stochastically different at the .001 level, by a Marshall's test (15). Evidently the group goal and group path were more structured in the clear condition. However, we also wished to make certain that this difference in clarity was not attributed to the builders. We therefore also asked, 'To what extent did the others have a careful plan according to which they worked?' and 'To what extent were the others clear about what they were making?' To the first question, the distributions of clear and unclear subjects were practically identical. Builders in the clear condition were seen as being somewhat more clear as to their product, but the difference was not great ($p=.20$).

THEORY AND RESULTS

Our measures indicate that we were successful in creating a situation which we wished to study. Each of our subjects existed in an interactive relationship with a group of three builders, in the sense that his behavior could determine whether or not the builders reached their goal. Most subjects felt that their group had a clear goal and that the builders knew how to reach it. While subjects in the clear condition were aware of exactly what that goal was and how it would be reached, 'unclear' subjects did not know what their group was building nor how they were going about it.

This difference between conditions can perhaps best be expressed in a Lewinian topological representation, comparing both individual and group spaces for both experimental conditions: in the clear condition, the group would first be located in a region of 'making floors'. At a distance of ten regions removed would be a clearly defined goal region, positively valent—'completing houses'. The nine clearly defined regions between would represent a path, differentiated by the visits from the messenger. Overlapping these regions would be three other well-defined regions—'making floors', 'making walls', 'making roofs and ceilings'. The unclear group space would show the group in an undefined region, this connected by another unstructured region to several vaguely defined regions—'making solids', 'making flat objects', 'making hollow objects'.

A similar comparison would be made for the individual's life space: In the clear condition, we would first see the individual in a region of 'making a decision'. At a distance of nine regions, in one direction would be a clearly defined goal region—'contributing to group's completing houses'. Overlapping the nine regions along the clear path toward that goal would be three regions—'cutting squares and trapezoids for floor', 'cutting parts for walls', 'cutting parts for roof'. In the opposite direction would be a region of 'cutting series', subdivided into nine subregions, and a goal region—'winning cigarettes or pocketbook'. In the

unclear condition, we should also find the subject in a region 'decision-making', and an adjacent region—'cutting squares and trapezoids'. However, adjoining that region would be an unstructured area, leading to a vaguely defined region—'contributing toward the group's completing some vaguely defined figures'. In the opposite direction would be an undifferentiated region—'cutting series', connected with a goal region—'winning cigarettes or pocketbook'.

In this section we shall state our hypotheses regarding the effects of the difference in clarity, and present with it the related data that we obtained from our experiment.

We shall use the term 'clarity of the group situation' to refer to the degree to which the goal of the group is clear for the individual and the degree to which the path toward the goal is structured. Also our hypotheses are meant to hold for an individual who exists in an interdependent relationship with a group, of such a kind that his behavior can affect the others in pursuit of their goals and the group can affect the extent to which he reaches his goals. Group membership has been defined in terms of such interdependence (6). Thus, all of our hypotheses should be preceded by the statement:

Given an individual who exists in an interdependent relationship with a goal-directed group:

Hypothesis 1. The greater the clarity of the group situation, the more will the individual be attracted to the group-goal-related task.

As Lewin (12, p. 106) points out, 'whether or not an activity is disgraceful or unpleasant depends to a high degree on its psychological meaning, that is, on the larger unit of events of which this action forms a part . . . If the objective is worthy, indeed, the effort is not even felt to be a sacrifice.' However, uncertainty as to where a given activity will lead results in uncertainty of behavior. An unstructured situation tends by its very nature to be less pleasant.

This hypothesis was tested by comparison of responses to several questions, administered at the end of the experiment. One asks, 'How did you like the task which we gave you and the others to do (building and cutting)?' A second asks, 'How much did you like the task which you personally had to do (cutting out figures)?' As can be seen in Table 1, the differences are significant at the .02 and

TABLE 1

ATTRACTION TO TASK

(a) 'How much did you like the task which we gave you and the others to do (cutting and building)?'								
(b) 'How did you like the task which you personally had to do (cutting out figures)?'								
	Liked very much	Liked it	Liked it a little	Indif- ferent	Disliked it a little	Disliked it	Disliked it very much	Total
(a) Clear	1	15	11	2	4	2	4	39
Unclear	1	6	9	4	15	4	0	39
				$p=.02$				
(b) Clear	0	6	16	4	6	3	4	39
Unclear	0	4	9	6	9	10	1	39
				$p=.04$				

·04 points,⁶ respectively, with the subjects in the clear condition showing much more attraction to their task. A question that asked, 'Suppose that you had earlier known as much about this experiment as you know now, how great would have been your desire to take part?' The responses to this question were also in support of the hypothesis ($p = \cdot 04$, by Marshall's test).

Hypothesis 2. The greater the clarity of the group situation, the less non-task-directed tension will be experienced by the individual.

The reasoning here was similar to that of Cohen (5). The individual, not being certain that his activity is leading to a desirable goal, shows this uncertainty, and the threat that arises from such uncertainty. The tension he has mobilized cannot be directed toward those goals with any degree of confidence and is therefore expended in other ways. As a result, the person feels ill at ease, and shows this in his behavior.

Two questions in the final questionnaire were also phrased to test this hypothesis. One asked 'To what extent did you feel at ease while working?' with a seven-point scale from 1. 'fully at ease' to 7. 'completely ill at ease'. No subjects would admit being at all ill at ease, so that the range extended over only the first four categories. The means, of 1·9 for the clear condition and 2·2 for the unclear condition, are not significant, though in the predicted direction. Another question, which was less rated, other cutters might not be well at ease? This was also in the predicted direction, and here the differences were greater. Thirteen of the 39 subjects in the clear condition felt that the physical separation would not affect emotional feelings, whereas only six subjects in the unclear condition accepted this statement. However, the overall significance level was only ·10, by Marshall's test. Our data with respect to this hypothesis can only be regarded as suggestive.

Hypothesis 3. The greater the clarity of the group situation, the less hostile feelings will be experienced by the individual.

If the unclear situation tends to make the person ill at ease and threatened, and since he cannot leave, we should expect a degree of frustration to result, leading, by the frustration-aggression hypothesis, to residual hostility. This hypothesis

TABLE 2

GENERAL HOSTILITY

<i>'Suppose that you had gotten up on the wrong foot this morning, and that you had come here in a bad mood. How would this experimental situation have influenced your humor?'</i>							
	<i>Make very angry</i>	<i>Make much worse</i>	<i>Make worse</i>	<i>Make slightly worse</i>	<i>Have no effect</i>	<i>Make somewhat better</i>	<i>Definitely improve</i>
<i>Clear</i>	0	3	3	5	12	13	3
<i>Unclear</i>	0	2	7	12	9	8	1
$p = \cdot 02$							

6. Unless otherwise stated, significance figures are by Marshall's test (14). Marshall's test is a non-parametric test of stochastic differences. Also all results will be stated for a one-tail test, since they are testing directional predictions. For a comparison of results in this report with those in which a two-tail test is used, all probability values reported here should be doubled.

follows from the preceding one, and it is therefore interesting that it is somewhat better supported by the data.

Subjects will not generally admit to hostility. Thus we utilized two indirect questions to test this hypothesis. The first asked, 'Suppose that you had gotten up on the wrong foot⁷ this morning, and that you had come here in a bad mood. How would this experimental situation have influenced your humor?' We note in *Table 2* that subjects in the clear condition were significantly more likely to feel that the experiment would improve their humor, while the subjects in the unclear condition tended to feel that this study would have made them feel worse.

In response to another question ('To what extent do you expect that other people, who do the same work as you did, might get just a little angry?'), seventeen subjects in the unclear condition felt that some people, or even quite a few people, might get angry. Only six people in the clear condition predicted this degree of hostility. However, the overall distributions showed differences that are not significant.

Hypothesis 4. The greater the clarity of the group situation, the higher will be the individual's self-evaluation.

An individual in a clear situation, knowing precisely how his work is contributing to a clear goal, can see his accomplishment and feels more secure. Therefore, we expected that he would evaluate his own work more favorably. However, this hypothesis does not seem well supported. Three questions, 'How do you feel that you have been working until now?', 'How do you think that the others will rate your work?', and 'How do you think that your work will compare with that of others who have done exactly the same job?', yielded only slight differences between conditions, though each was in the predicted direction.

Hypothesis 5. The greater the clarity of the group situation, the greater the group-belongingness of the individual.

Included in group-belongingness as used here are 1. the feeling of group membership, of oneness with the group, 2. an involvement in the work and in the goals of the group, 3. a feeling of emotions in sympathy with the group.

We believe that the perception of a clear group goal and of a clear path toward that goal tends to draw the individual into the group. This holds true, provided the goal itself has some positive value, however small, for the individual. Deutsch (6), in fact, makes the individual's perception of a 'promotively interdependent' or common goal his basis for a definition of group membership. And it follows that the clearer the goal and the path, the more this interdependence will become obvious to the person.

a. Group Membership. The test for differences in group membership comes from a question from the final questionnaire, 'In the factory, the person is a member of many groups. In some cases, the person feels fully a member, in other cases, he feels only a second-class or marginal member. Some feel themselves not in the least a member of the group even though they are working with the others. To what extent did you feel a member of a group with the three others?' Until this point, we had avoided referring to the builders and cutter, taken together, as a group.

We can see in *Table 3* that differences between conditions are indeed evident,

7. Dutch equivalent of getting up 'on the wrong side of bed'.

TABLE 3

PERCEPTION OF GROUP MEMBERSHIP

'To what extent did you feel a member of a group with the three others?'

	<i>Not in least member</i>	<i>Scarcely member</i>	<i>Slightly</i>	<i>Some, but less than others</i>	<i>Almost as others</i>	<i>As much as others</i>	<i>As much or more than others</i>
<i>Clear</i>	2	0	5	17	3	7	5
<i>Unclear</i>	2	6	5	18	1	4	3
$p = .10$							

though not significant overall. This low level of significance can be attributed to the great number at the middlemost category. If we examine only those who avoided the middle category, we see the difference between conditions particularly sharply. (chi-square=3.9, with 1 df, $p = .025$.)

b. Group Involvement. By *group involvement*, as compared to *individual involvement*, we mean the concern the person shows for the performance of the group, over and above his own performance. To test the prediction that subjects in the clear condition would show greater group involvement, we asked two questions: 'How would you feel if I should tell you that you are not doing your job well?' and 'How would you feel if I should tell you that you and the other three are not doing your job well?' Each question was accompanied by a six-point scale, ranging from 1, 'I would be very disappointed', to 6, 'It would not bother me in the least'. The pair of questions was asked once after the second four-minute work period, and also in the final questionnaire. Since the same scale was used in each, a simple comparison of the two would show whether there was greater individual or group involvement.

TABLE 4 GROUP INVOLVEMENT VS. INDIVIDUAL INVOLVEMENT

Comparison of responses to two questions: 'How would you feel if I told you that you and the other three are not doing a good job?'

		<i>Greater concern for group</i>	<i>Equal concern</i>	<i>Greater concern for self</i>
<i>During Break</i> }	<i>Clear</i>	23	12	4
	<i>Unclear</i>	13	19	7
(T-test of difference in percentage who show greater concern for group, $p = .01$)				
<i>Final Questionnaire</i> }	<i>Clear</i>	12	19	8
	<i>Unclear*</i>	9	21	8

* One no answer

In Table 4, we see that the differences between conditions during the first administration of the questions was quite clear—most of the clear subjects tending to feel worse if their group was not doing well; most of the subjects in the unclear condition feeling worse if they personally were not doing well, or expressing equal concern. Combining the two smaller categories, we find that the difference is significant

at the .01 point, in a *t*-test of difference in proportions. The difference in the second administration of the questions is, to a considerable extent, obliterated. As we shall see below, there is some reason to believe that the subjects in the clear condition began to lose some of their interest in the group toward the very end of the experiment, or at least felt that they had already helped the group enough and should now concentrate on their own prize.

c. Sympathy. By sympathy we mean the induction of an emotion—the experience of joy when others are joyful, sadness when others are sad, laughing when others laugh, etc. An individual who identifies with a group will be more likely to sympathize with that group. Thus we expected more sympathy in the clear condition. To compare conditions on sympathy, we placed a sympathy-provoking situation in each four-minute work period. The identical situations appeared in both scripts. These included laughing at a cartoon that the subject could not see, a song, a belch, a disturbance following the spilling of paint, humorous interchanges. The observer, knowing the script, was prepared to rate the subject's reaction on a seven-point scale.

Taken as a whole, there is no sharp difference in sympathy by the observers' ratings. In most cases, no response was evident and we therefore find a very great proportion of the ratings in the neutral category. The overall differences in means for the seven periods are not significant, though in the predicted direction—3.5 and 3.7 for clear and unclear conditions respectively.

However, the ratings for one sympathy situation show dramatic differences between the two conditions. These were the ratings during the fifth work period of

TABLE 5

SYMPATHY WITH 'BOER'

	<i>Strong positive</i>	<i>Moderate positive</i>	<i>Light positive</i>	<i>No evidence</i>	<i>Light negative</i>	<i>Moderate negative</i>	<i>Strong negative</i>
<i>Clear</i>	3	14	13	7	2	0	0
<i>Unclear</i>	0	2	12	19	6	0	0
<i>p</i> = .001							

a belch or *boer*, followed by a loud positive response from the builders. The reactions to the *boer*, as shown in Table 5, were much more likely to be rated positively in the clear condition. The difference is significant at the .001 level.⁸

In general, however, our data point to a greater degree of group-belongingness in the clear situation, and we can consider the hypothesis as substantially supported.

8. There are several reasons why this particular stimulus should particularly point out differences in conditions. First, the *boer* was more obvious, and less expected, so that a response from the subject would be more likely to occur. Also, the difference can be explained from Dutch student life. The *boer* is one aspect of the student culture—often it is heard at jovial male student parties. We can find comparable social items in most student cultures that are less acceptable in the general society, but are received in a friendly way within the student in-group. Thus, the reaction on the *boer* would seem to be a very interesting index of degree of in-group feeling. Of course, this finding should also be considered along with other data, since the fact that the observers were aware of the prediction could still possibly bias the results, despite all efforts to the contrary.

Hypothesis 6. The greater the clarity of the group situation, the more favorable will be the evaluation given by the individual to his group.

This hypothesis follows from the previous one about feeling of belongingness and also from the hypothesis about attraction to the group-related task. The attraction to the work would be carried over to the evaluation of one's co-workers. A feeling of belongingness also leads to a more positive evaluation.

To measure personal attraction, we asked, 'How did you find the other subjects whom you heard working over the loudspeaker?' This question was asked after the first four minutes of work, and also at the end of the experiment. The responses for the first administration as shown in Table 6 are in the right direction, but are

TABLE 6

ATTRACTION TO GROUP

'How did you find the other subjects whom you heard working over the loudspeaker?'

	<i>Very nice*</i>	<i>Nice</i>	<i>O.K.</i>	<i>Neutral</i>	<i>Not too nice</i>	<i>Not nice</i>	<i>Especially not nice</i>
<i>Clear</i>	2	18	9	8	1	1	0
<i>Unclear</i>	1	14	13	6	5	0	0

* *Sympathiek*

not significant, possibly owing to the lack of sensitivity of the question. Responses on the final questionnaire were similar. This hypothesis cannot, therefore, be regarded as supported.

Hypothesis 7. The greater the clarity of the group situation, the more will the individual be able to perceive social differentiation in the group.

Our rationale for this hypothesis stems from an assumption that the roles within a group, particularly those which have been called 'functional roles' (2), gain their meaning from their relationship to the basic goals and activities of the group. When the goal and path of the group are unclear, the social structure of the group also becomes less meaningful to its members.

To test this hypothesis, we introduced some consistency in behavior among the three builders, which would allow the cutters to draw conclusions about their functions in the group. These distinctions were not as clear as they might be, because of subsequent alterations in the script. However, in the final questionnaire, we asked the subjects to try to pick out the builder who (a) did the most leading, (b) did the most following, (c) seemed to do most to make the group work more smoothly, (d) seemed to do least to make the group work smoothly. As an aid in remembering names, we asked each builder, by recording, to say a few words, including his own name, just before the cutter answered the question.

In Table 7 we see very sharp differences in social perceptiveness, with subjects in the clear condition being much more able to note differences in role among the builders. The differences are particularly significant for perception of who was the 'follower' and the 'social smoother'. This is perhaps due to the fact that the 'leader' role is specially sharp and the 'disrupter' role especially unsharp, so that differences between conditions are not given the opportunity to manifest themselves. The overall significance levels combining chi-squares and degrees of freedom, are very clearly in support of the hypothesis, being less than .001 for differences in ability

TABLE 7

SOCIAL PERCEPTIVENESS

<i>A. Number of subjects who noted social role differentiation</i>				
	<i>Leader</i>	<i>Follower</i>	<i>Social smoother</i>	<i>Social disrupter</i>
<i>Clear</i>	32	28	19	14
<i>Unclear</i>	26	16	8	8
<i>p*</i>	·06	·005	·005	·07
<i>B. Number of subjects who were able to name an individual for a given social role</i>				
<i>Clear</i>	23	24	15	11
<i>Unclear</i>	20	13	6	4
<i>p*</i>	NS	·01	·02	·03

* By one-tail *t*-test of differences in proportions. Over-all significances, by combining chi-squares and adding degrees of freedom, are ·001 and ·002 for A and B, respectively.

to note social differentiation, and ·002 for ability to name a person for a given social role.

Hypothesis 8. The greater the clarity of the group situation, the more will the group be able to influence the individual.

An influence attempt from the group will be more likely to be accepted if it is clearly seen as furthering the group's progress toward a clear and acceptable goal. When the goal and path are not clear, the individual has no assurance that the influence, if accepted, will not lead him in a direction contrary to his own desires. Furthermore, the feeling of belongingness to the group, which, we have shown, is greater when the group goal and path are clear, will also increase the person's tendency to accept influence from his group. Deutsch (6) has already demonstrated that a group that is 'promotively interdependent'—such that the actions of each individual are seen as helping all others toward a goal—will have a greater degree of positive inducibility.

At the conclusion of the experiment, we knew for each subject the number of pieces he had cut during each four-minute work period. We also knew how many of these pieces for each period had been requested by the builders just prior to that period and could calculate from this his percentage conformity. Since two of the six geometric figures were requested, a subject who cut only series, and did not heed the request of his group, would still have cut $33\frac{1}{3}$ per cent requested pieces. The higher the percentage above that, the greater the influence of the group.

Table 8 shows the percentage conformity over the total of the six induction periods. If we examine the distributions we find that the subjects in the clear conditions distribute themselves roughly in a J-curve of conformity, with a slight increase in cases at the lower percentage levels. The subjects in the unclear condition are ranged in more of a rectangular distribution. However, the difference is significant at only the ·07 point.

The difference between conditions during the first three four-minute work periods is even greater, particularly if we note that the modal category is 100 per cent in the clear condition and only 40 to 49 per cent for subjects in the unclear condition. The greater differences in the early periods may in part be explained by the fact that during the last periods the builders were particularly emphatic in their

TABLE 8

GROUP INFLUENCE

A. Distribution of subjects according to percentage conformity over total of six induction periods

	100%	90-99%	80-89%	70-79%	60-69%	50-59%	40-49%	-39%
Clear	14	8	2	1	3	2	5	4
Unclear	6	6	6	1	5	7	4	4

CR=1.51, $p=.07$, by one-tail tau-test (9)

B. Distribution of subjects according to percentage conformity over first three induction periods

	100%	90-99%	80-89%	70-79%	60-69%	50-59%	40-49%	-39%
Clear	16	5	2	2	4	4	2	4
Unclear	7	5	1	3	4	5	10	4

CR=1.71, $p=.05$, by one-tail tau-test

requests for pieces. This stronger language was put in purposely to allay suspicion among those subjects who had not been conforming till that point. However, this may have had the additional effect of increasing conformity among the unclear subjects and of making for some animosity among clear subjects who had been conforming until that point. This explanation is supported by the responses to questions about task-involvement during the early periods and in the final questionnaire (see Table 4). Taken as a whole, the data on productivity tend to support the hypothesis.

SUMMARY

In this experiment we have continued the investigation of the effects of varied clarity of goals and paths, specifically goals and paths that stemmed from the activities of a group. When an individual is in an interdependent relationship with a group, we hypothesized that unclarity of group goals and paths would have effects not only on the individual's basic adjustment but also upon his relationship with his group. By manipulating our experimental conditions with tape-recordings, we were able to produce one condition in which the group goal and path were clearly perceived by the individual, another in which he was unaware of what the group was building or of the procedure being followed. In all cases, the subject felt that the others had a clear goal and plan, even if he did not know what it was.

When an individual is in an interdependent relationship with a group, we hypothesized that unclarity of group goal and path would have negative implications for the member's relationship with his group, as well as for his own basic individual adjustment. Our hypotheses were, by and large, well supported: Comparing the two experimental conditions, we found that, as an individual, the subject in the clear condition was more interested in his personal task and showed less hostility. As a group member, the subject who had a clear picture of his group goal and group path experienced greater feelings of group-belongingness, particularly as manifested in an involvement with the group goal and in sympathy with group emotions. He was also more able to perceive social differentiation and more willing to accept influence from his group, than subjects who were unclear about the goals and paths of their group. Hypotheses regarding the effects of clarity on the indi-

vidual's self-evaluation, his evaluation of his group, and the amount of non-directed tension received only scant support.

DISCUSSION

The findings from this and other studies of the effects of unclarity on individual adjustment have particular implications for a modern society, where hierarchization and specialization have increased the gap between the goal-and-path setters, on the one hand, and the line workers, on the other. We have seen several experiments that demonstrate the influence of differential status or privilege within a group upon the communications system of that group (1, 8, 9, 16). In all these studies conducted with a variety of people in widely differing situations, there is a consistent difference in communication pattern between low-status and high-status members: whereas the low-status members tend to address a greater amount of communication to those above them in the hierarchy, the high-status members tend to communicate more with one another, or with someone of even higher status. Some experimenters have attempted to explain this unreciprocated upward communication as due to the communication serving as a substitute for actual locomotion—if the worker cannot occupy a high position, he can at least speak to someone who does (1, 9, 16). Hurwitz, Zander, and Hymovitch (8) instead attribute upward communication to its threat-reducing qualities in a power relationship. However, one could equally well say that their data demonstrate a restriction in downward communication, the individuals in high-status positions withholding information from those below them.

In order to assess the effects of these differences in communication, it would be interesting to know more about the content that is communicated and withheld by individuals at various levels. Kelley (9) found one interesting distinction—that the individuals in high-status positions were specially likely to communicate work-relevant content to those in lower positions. One would, of course, expect that if there is a restriction in downward communication, the high-status people would economize in their messages at the expense of those topics of conversation which they did not feel were necessary for the reaching of the external goals of the organization. In the extreme case, they would limit their remarks to their subordinates so as to include only direct statements as to what that subordinate should be doing during a short succeeding time interval. The foreman might tell the worker what the worker should do during the succeeding hour, but nothing about how the worker's job would fit into the entire scheme of things. The schoolteacher might ask her pupils to read specific pages in a history book, but without letting them know how this assignment fitted in with the entire course program. There is still *no complete agreement among supervisors about the necessity for keeping their subordinates completely informed of the goals and procedures of the organization.* Clearly, research is in order on the effects of varied clarity of the goals and paths of the group upon the behavior of that group. The above study, showing that unclear group goals and group paths have negative effects upon the individual's adjustment to the group situation, may, then, be taken as one case in point.

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BIOGRAPHICAL NOTES

BERTRAM H. RAVEN received his B.A. and M.A. degrees from Ohio State University. After receiving his Ph.D. in social psychology from the University of Michigan, he continued there as a lecturer and as a Research Associate at the Research Center for Group Dynamics. The preceding study was conducted while Dr. Raven was a Fulbright scholar, under the International Exchange of Persons

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Alienation from Interaction

ERVING GOFFMAN

I. INTRODUCTION

WHEN the individual in our Anglo-American society engages in a conversational encounter with others he may become spontaneously involved in it. He can become unthinkingly and impulsively immersed in the talk and carried away by it, oblivious to other things, including himself. Whether his involvement is intense and not easily disrupted, or meager and easily distracted, the topic of talk can form the main focus of his cognitive attention and the current talker can form the main focus of his visual attention. The binding and hypnotic effect of such involvement is illustrated by the fact that while thus involved the individual can simultaneously engage in other goal-directed activities (chewing gum, smoking, finding a comfortable sitting position, performing repetitive tasks, etc.) yet manage such side-involvements in an abstracted, fugue-like fashion so as not to be distracted from his main focus of attention by them.

The individual, like an infant or an animal, can of course become spontaneously involved in unsociable solitary tasks. When this occurs the task takes on at once a weight and a lightness, affording the performer a firm sense of reality. As a main focus of attention talk is unique, however, for talk creates for the participant a world and a reality that has other participants in it. Conjoint spontaneous involvement is a *unio mystico*, a socialized trance. We must also see that a conversation has a life of its own and makes demands on its own behalf. It is a little social system with its own boundary-maintaining tendencies; it is a little patch of commitment and loyalty with its own heroes¹ and its own villains.

Taking conjoint spontaneous involvement as a point of reference, I want to discuss how this involvement can fail to occur and the consequence of this failure. I want to consider the ways in which the individual can become alienated from a conversational encounter, the uneasiness that arises with this, and the consequence of this alienation and uneasiness upon the interaction. Since alienation can occur in regard to any imaginable talk, we may be able to learn from it something about the generic properties of spoken interaction.

II. INVOLVEMENT OBLIGATIONS

When individuals are in one another's immediate presence, a multitude of words, gestures, acts, and minor events become available, whether desired or not, through which one who is present can intentionally or unintentionally symbolize

1. One of its heroes is the wit who can introduce references to wider, important matters in a way that is ineffably suited to the current moment of talk. Since the witticism will never again be as telling, a sacrifice has been offered up to the conversation, and respect paid to its unique reality by an act which shows how thoroughly the actor is alive to the interaction.

his character and his attitudes. In our society a system of etiquette obtains that enjoins the individual to handle these expressive events fittingly, projecting through them a proper image of himself, an appropriate respect for the others present, and a suitable regard for the setting. When the individual intentionally or unintentionally breaks a rule of etiquette, others present may mobilize themselves to restore the ceremonial order, somewhat as they do when other types of social order are transgressed.

Through the ceremonial order that is maintained by a system of etiquette, the capacity of the individual to be carried away by a talk become socialized, taking on a burden of ritual value and social function. Choice of main focus of attention, choice of side-involvements and of intensity of involvement, become hedged in with social constraints, so that some allocations of attention become socially proper and other allocations improper.

There are many occasions when the individual participant in a conversation finds that he and the others are locked together by involvement obligations with respect to it. He comes to feel it is defined as appropriate (and hence either desirable in itself or prudent) to give his main focus of attention to the talk, and to become spontaneously involved in it, while at the same time he feels that each of the other participants has the same obligation. Due to the ceremonial order in which his actions are embedded, he may find that any alternate allocation of involvement on his part will be taken as a discourtesy and cast an uncalled-for reflection upon the others, the setting, or himself. And he will find that his offense has been committed in the very presence of those who are offended by it. Those who break the rules of interaction commit their crimes in jail.

The task of becoming spontaneously involved in something, when it is a duty to oneself or others to do so, is a ticklish thing, as we all know from experience with dull chores or threatening ones. The individual's actions must happen to satisfy his involvement obligations, but in a certain sense he cannot act *in order* to satisfy these obligations, for such an effort would require him to shift his attention from the topic of conversation to the problem of being spontaneously involved in it. Here, in a component of non-rational impulsiveness—not only tolerated but actually demanded—we find an important way in which the interactional order differs from other kinds of social order.

The individual's obligation to maintain spontaneous involvement in the conversation and the difficulty of doing so place him in a delicate position. He is rescued by his co-participants, who control their own actions so that he will not be forced from appropriate involvement. But the moment he is rescued he will have to rescue someone else, and so his job as interactant is only complicated the more. Here, then, is one of the fundamental aspects of social control in conversation: the individual must not only maintain proper involvement himself but also act so as to ensure that others will maintain theirs. This is what the individual owes the others in their capacity as interactants, regardless of what is owed them in whatever other capacities they participate, and it is this obligation that tells us that, whatever social role the individual plays during a conversational encounter, he will in addition have to fill the role of interactant.

The individual will have approved and unapproved reasons for fulfilling his obligation *qua* interactant, but in all cases to do so he must be able rapidly and delicately to take the role of the others and sense the qualifications their situation ought to bring to his conduct if they are not to be brought up short by it. He must

be sympathetically aware of the kinds of things in which the others present can become spontaneously and properly involved, and then attempt to modulate his expression of attitudes, feelings, and opinions according to the company.

Thus, as Adam Smith argued in his *Theory of the Moral Sentiments*, the individual must phrase his own concerns and feelings and interests in such a way as to make these maximally usable by the others as a source of appropriate involvement; and this major obligation of the individual *qua* interactant is balanced by his right to expect that others present will make some effort to stir up their sympathies and place them at his command. These two tendencies, that of the speaker to scale down his expressions and that of the listeners to scale up their interests, each in the light of the other's capacities and demands, form the bridge that people build to one another, allowing them to meet for a moment of talk in a communion of reciprocally sustained involvement. It is this spark, not the more obvious kinds of love, that lights up the world.

III. THE FORMS OF ALIENATION

If we take conjoint spontaneous involvement in a topic of conversation as a point of reference, we shall find that alienation from it is common indeed. Conjoint involvement appears to be a fragile thing, with standard points of weakness and decay, a precarious unsteady state that is likely at any time to lead the individual into some form of alienation. Since we are dealing with obligatory involvement, forms of alienation will constitute misbehavior of a kind that can be called 'misinvolvement'. Some of the standard forms of alienative misinvolvement may be considered now.

1. *External Preoccupation.* The individual may neglect the prescribed focus of attention and give his main concern to something that is unconnected with what is being talked about at the time and even unconnected with the other persons present, at least in their capacity as fellow-participants. The object of the individual's preoccupation may be one that he ought to have ceased considering upon entering the interaction, or one that is to be appropriately considered only later in the encounter or after the encounter has terminated. The preoccupation may also take the form of furtive by-play between the individual and one or two other participants. The individual may even be preoccupied with a vague standard of work-activity, which he cannot maintain because of his obligation to participate in the interaction.

The offensiveness of the individual's preoccupation varies according to the kind of excuse the others feel he has for it. At one extreme there is preoccupation that is felt to be quite voluntary, the offender giving the impression that he could easily give his attention to the conversation but is wilfully refusing to do so. At the other extreme there is 'involuntary' preoccupation, a consequence of the offender's understandably deep involvement in vital matters outside the interaction.

Individuals who could excusably withdraw involvement from a conversation often remain loyal and decline to do so. Through this they show a nice respect for fellow-participants and affirm the moral rules that transform socially responsible people into people who are interactively responsible as well. It is of course through such rules, and through such reaffirming gestures, that society is made safe for the little worlds sustained in face-to-face encounters. No culture, in fact, seems to be

without exemplary tales for illustrating the dignity and weight that might be given to these passing realities; everywhere we find enshrined a Drake who gallantly finishes some kind of game before going out to battle some kind of Armada, and everywhere an outlaw who is engagingly civil to those he robs and to those who later hang him for it.²

2. *Self-consciousness*. At the cost of his involvement in the prescribed focus of attention, the individual may focus his attention more than he ought upon himself—himself as someone who is faring well or badly, as someone calling forth a desirable or undesirable response from others. It is possible, of course, for the individual to dwell upon himself as a topic of conversation—to be self-centered in this way—and yet not to be self-conscious. Self-consciousness for the individual does not, it seems, result from his deep interest in the topic of conversation, which may happen to be himself, but rather from his giving attention to himself as an interactant at a time when he ought to be free to involve himself in the content of the conversation.

A general statement about sources of self-consciousness ought to be added. During interaction the individual is often accorded by others and by impersonal events in the situation an image and appraisal of self that is at least temporarily acceptable to him. He is then free to turn his attention to matters less close to home. When this definition of self is threatened, the individual typically withdraws attention from the interaction in a hurried effort to correct for the incident that has occurred. If the incident threatens to raise his standing in the interaction, his flight into self-consciousness may be a way of rejoicing; if the incident threatens to lower his standing and damage or discredit his self-image in some way, then flight into self-consciousness may be a way of protecting the self and licking its wounds. As a source of self-consciousness, threat of loss seems more common and important than threat of gain.

Whatever the cause of self-consciousness, we are all familiar with the vacillation of action and the flutterings through which self-consciousness is expressed; we are all familiar with the phenomenon of embarrassment.

Self-consciousness can be thought of as a kind of preoccupation with matters internal to the interactive social system, and as such has received more common-sense consideration than other kinds of internal preoccupation. In fact we do not have common-sense words to refer to these other kinds of improper involvement. Two forms of these I shall refer to as 'interaction-consciousness' and 'other-consciousness' to emphasize a similarity to self-consciousness.

3. *Interaction-consciousness*. A participant in talk may become consciously concerned to an improper degree with the way in which the interaction, *qua* interaction, is proceeding, instead of becoming spontaneously involved in the official topic of conversation. Since interaction-consciousness is not as famous as self-consciousness, some sources of it may be cited by way of illustration.

A common source of interaction-consciousness is related to the special responsibility that an individual may have for the interaction 'going well', i.e. calling forth the proper kind of involvement from those present. Thus, at a small social gathering the hostess may be expected to join in with her guests and become spontaneously

2. Yet different strata in the same society can be unequally concerned that members learn to project themselves into encounters; the tendency to keep conversations alive and lively may be a way in which some strata, not necessarily adjacent, are characteristically different from others.

involved in the conversation they are maintaining, and yet at the same time if the occasion does not go well she, more than others, will be held responsible for the failure. In consequence, she sometimes becomes so much concerned with the social machinery of the occasion and with how the evening is going as a whole that she finds it impossible to give herself up to her own party.

Another common source of interaction-consciousness may be mentioned. Once individuals enter a conversation they are obliged to continue it until they have the kind of basis for withdrawing that will neutralize the potentially offensive implications of taking leave of others. While engaged in the interaction it will be necessary for them to have subjects at hand to talk about that fit the occasion and yet provide content enough to keep the talk going; in other words, safe supplies are needed.³ What we call 'small talk' serves this purpose. When individuals use up their small talk, they find themselves officially lodged in a state of talk but with nothing to talk about; interaction-consciousness experienced as a 'painful silence' is the typical consequence.

4. *Other-consciousness.* During interaction, the individual may become distracted by another participant as an object of attention—exactly as in the case of self-consciousness he can become distracted by concern over himself.⁴

If the individual finds that whenever he is in the conversational presence of specific others they cause him to be overly conscious of them at the expense of the prescribed involvement in the topic of conversation, then they may acquire the reputation in his eyes of being faulty interactants, especially if he feels he is not alone in the trouble he has with them. He is then likely to impute certain characteristics to those who are thus perceived, doing so in order to explain and account for the distraction they cause him. It will be useful to our understanding of interaction to list a few of the attributes imputed in this way.

By the terms 'affectation' and 'insincerity' the individual tends to identify those who seem to feign through gestures what they expect him to accept as an uncontrived expressive overflow of their behavior. Affectation, as Cooley suggests, '... exists when the passion to influence others seems to overbalance the established character and give it an obvious twist or pose (2, p. 196).'

'Thus there are persons who in the simplest conversation do not seem to forget themselves, and enter frankly and disinterestedly into the subject, but are felt to be always preoccupied with the thought of the impression they are making, imagining praise or depreciation, and usually posing a little to avoid the one or gain the other' (2, p. 215).

Affected individuals seem chiefly concerned with controlling the evaluation an observer will make of them, and seem partly taken in by their own pose; insincere individuals seem chiefly concerned with controlling the impression the observer will form of their attitude toward certain things or persons, especially toward him, and seem not to be taken in by their own pose. It may be added that while those who are felt to be self-conscious give the impression of being overly concerned with what will happen or has happened to them, those who are felt to be insincere or affected

3. The problem of safe supplies is further considered in my 'Communication Conduct in an Island Community' (4, Ch. xv).

4. Other-consciousness is briefly but explicitly considered in James Baldwin (1, pp. 213-14).

give the impression that they are overly concerned with what they can achieve in what is to follow and are willing to put on an act in order to achieve it. When the individual senses that others are insincere or affected he tends to feel they have taken unfair advantage of their communication position to promote their own interests; he feels they have broken the ground rules of interaction. His hostility to their unfair play leads him to focus his attention upon them and their misdemeanor at the price of his own involvement in the conversation.

In considering the attributes imputed to those who cause another to be conscious of them, we must give importance to the factor of immodesty. On analytical grounds over-modesty should equally count as a source of other-consciousness, but, empirically, immodesty seems much the more important of the two. What the individual takes to be immodesty in others may present itself in many forms: immodest individuals may seem to praise themselves verbally; they may talk about themselves and their activity in a way that assumes greater interest in and familiarity with their personal life than the individual actually possesses; they may speak more frequently and at greater length than the individual feels is fitting; they may take a more prominent 'ecological' position than he thinks they warrant, etc.

One interesting source of other-consciousness is to be found in the phenomenon of 'over-involvement'. During any conversation, standards are established as to how much the individual is to allow himself to be carried away by the talk, how thoroughly he is to permit himself to be caught up in it. He will be obliged to prevent himself from becoming so swollen with feelings and a readiness to act that he threatens the bounds regarding affect that have been established for him in the interaction. He will be obliged to express a margin of disinvolvement, although of course this margin will differ in extent according to the socially recognized importance of the occasion and his official role in it. When the individual does become over-involved in the topic of conversation, and gives others the impression that he does not have a necessary measure of self-control over his feelings and actions, when, in short, the interactive world becomes too real for him, then the others are likely to be drawn from involvement in the talk to an involvement in the talker. What is one man's over-eagerness will become another's alienation. In any case we are to see that over-involvement has the effect of momentarily incapacitating the individual as an interactant; others have to adjust to his state while he becomes incapable of adjusting to theirs. Interestingly enough, when the impulse of the over-involved individual has ebbed a little, he may come to sense his impropriety and become self-conscious, illustrating again the fact that the alienative effect the individual has on others is usually one he cannot escape having upon himself. Regardless of this, we must see that a readiness to become over-involved is a form of tyranny practised by children, *prima donnas*, and lords of all kinds, who momentarily put their own feelings above the moral rules that ought to have made society safe for interaction.

A final source of other-consciousness may be mentioned. If the individual is to become involved in a topic of conversation, then, as a listener, he will have to give his aural and usually his visual attention to the source of communication, that is, to the speaker, and especially to the speaker's voice and face. (This physical requirement is underlined by social rules that often define inattention to the speaker as an affront to him.) If the speaker's communication apparatus itself conveys additional information all during the time that transmission is occurring, then the listener is likely to be distracted by competing sources of stimuli, becoming over-aware of the

speaker at the expense of what is being said. The sources of this distraction are well known: the speaker may be very ugly or very beautiful; he may have a speech defect such as a lisp or a stutter; he may have inadequate familiarity with the language, dialect, or jargon that the listeners expect to hear; he may have a slight facial peculiarity, such as a hare lip, eye twitch, crossed or wall eyes; he may have temporary communication difficulties such as a stiff neck, a hoarse voice, etc. Apparently the closer the defect is to the communication equipment upon which the listener must focus his attention, the smaller the defect need be to throw the listener off balance. (It should be added that in so far as a speaker is required to direct his attention to his listener and yet not be overly conscious of him, defects in the appearance of the listener can cause the speaker to be uneasy.) These minor defects in the apparatus of communication tend to shut off the afflicted individual from the stream of daily contacts, transforming him into a faulty interactant, either in his own eyes or in the eyes of others.

In concluding this discussion of sources of alienating distraction, I should like to state an obvious caution. When the individual senses that others are unsuitably involved, it will always be relative to the standards of his group that he will sense the others have behaved improperly. Similarly, an individual who would cause certain others to be unduly conscious of him because of his apparent insincerity, affectation, or immodesty would pass unnoticed in a subculture where conversational discipline was less strict. Hence, when members of different groups interact with one another, it is quite likely that at least one of the participants will be distracted from spontaneous involvement in the topic of conversation because of what appears to him to be unsuitable behavior on the part of the others.⁵ It is to these differences in expressive customs that we ought to look first in trying to account for the improper behavior of those with whom we happen to be participating and not try, initially at least, to find some source of blame within the personalities of the offenders.

IV. ON THE REPERCUSSIVE CHARACTER OF INVOLVEMENT OFFENSES

I have suggested that disenchantment with an interaction may take the form of preoccupation, self-consciousness, other-consciousness, and interaction-consciousness. These forms of alienation have been separated for purposes of identification. In actual conversation, when one kind occurs the others will not be far behind.

When the individual senses that he or other participants are failing to allocate their involvement according to standards that he approves, and in consequence that they are conveying an improper attitude toward the interaction and the participants, then his sentiments are likely to be roused by the impropriety—much as they would be were any other obligations of the ceremonial order broken. But matters do not stop here. The witnessing of an offense against involvement obligations, as against

5. For example, in social intercourse among traditional Shetlanders, the pronoun 'I' tends to be little used; its greater use by individuals from the mainland of Great Britain, and especially its relatively frequent use by Americans, leads the Shetlander to feel that these non-Shetlandic people are immodest and gross. Shetlandic tact, it might be added, frequently prevents non-islanders from learning that their manner causes Shetlanders to be uneasy.

other ceremonial obligations, causes the witness to turn his attention from the conversation at hand to the offense that has occurred during it. If the individual feels responsible for the offense that has occurred, he is likely to be led to feel shamefully self-conscious. If others seem responsible for the offense, then he is likely to be led to feel indignantly other-conscious in regard to them. But to be self-conscious or other-conscious is in itself an offense against involvement obligations. The mere witnessing of an involvement offense, let alone its punishment, can cause a crime against the interaction, the victim of the first crime himself being made a criminal. Thus, during spoken interaction, when one individual is stricken with uneasiness, others often come down with the disease.

A note of qualification should be added. The individual may become misinvolved and yet neither he nor others may become aware that this is the case, let alone become improperly involved because of this awareness. He commits a latent offense that only awaits someone's perception of it to make it manifest. When others come to see that he is misinvolved, and convey the fact of this judgment to him, he may become self-consciously flustered in consequence, as he may also do when he discovers this fact for himself. Thus an individual may 'come to' from a brown study and embarrassingly find himself in the midst of an interaction but patently alienated from it.

V. THE AFFECTATION OF INVOLVEMENT

When a conversation fails to capture the spontaneous involvement of an individual who is obliged to participate in it, he is likely to contrive an appearance of being really involved. This he must do to save the feelings of the other participants and their good opinion of him, regardless of his motives for wanting to effect this saving. In doing so he has a damping effect upon the repercussive consequences of misinvolvement, ensuring that while he may be disaffected his disaffection will not contaminate others. At the same time, however, he drives a wedge between himself and the world that could become real for him. And the gap that is created in this way he fills with that special kind of uneasiness that is characteristically found during conversation; the kind of uneasiness that occurs when involvement obligations can neither be laid aside nor spontaneously realized; the kind that occurs when the individual is separated from the reality of interaction, yet at a time when interaction is all around him.

As a form of contrivance, affected involvement will be differently judged according to the motive the alienated individual has for contriving it. Some shows of involvement are felt to be cynical because the individual seems to be interested ultimately not in the feelings of the others but rather in what can be gained by deluding the others into a belief that they have captured his attention. He gives the impression that he is occupied with the talk but proves to be really occupied with the task of giving this impression.

On the other hand, if the alienated individual is genuinely concerned with the feelings of the others, as important matters in their own right, then any act that protects these feelings may be considered a form of tact and approved on this ground.

It should be noted that often the show of involvement given by the tactful inter-actant is not as good a show as he is capable of giving. Some power that is almost

beyond him will force him to demonstrate to others and to himself that this kind of interaction with these participants is not the sort of thing that can capture his attention; someone must see that he is perhaps above or beyond it. Here we find a form of insubordination carried on by those who may not really be in a position to rebel.

The ways of not quite concealing tactfully concealed misinvolvement constitute, then, the symptoms of boredom. Some symptoms of boredom suggest that the individual will make no effort to terminate the encounter or his official participation in it but that he will no longer give as much to it. The initiation of side-involvements, such as leafing through a magazine or lighting a cigarette, are instances. Other symptoms of boredom suggest that the individual is about to terminate official participation and function as a tactful warning of this.⁶

To manifest signs of boredom is an inconsiderate thing. But in a certain way he who does so assures the others that he is not affecting something that is not felt; they at least know where they stand with him. To suppress these signs completely is suspect, for this prevents others from obtaining the benefit of feed-back cues that might tell them what the situation really is. Thus, while there is one obligation to affect involvement, there is another one inducing the individual not to affect it too well. It is an interesting fact that when the self of the boring individual is deeply committed to the proceedings, as it may be, for example, during leave-takings and avowals of affection, then the bored individual is likely to feel a strong compunction to conceal signs of alienation and thoroughly affect involvement. It is thus at the most poignant and crucial moments of life that the individual is often forced to be the most contriving; these, too, will be the times when the boring individual will be in greatest need of candor from others and least able to bear receiving it.

I have suggested that a show of involvement may be affected by cynical participants and by tactful ones; the same show may also be affected by those who feel self-consciously embarrassed. They may even add to their production by affecting signs of boredom. A condition that casts doubt upon the individual himself is thus exchanged, he hopes, for one that casts doubt upon the others. There is a psychological doctrine that carries this observation one step further and argues that when the individual is himself convinced that he is bored, he may be trying to conceal from himself that he is actually embarrassed.⁷

Conversational encounters in which participants feel obliged to maintain spontaneous involvement and yet cannot manage to do so are ones in which they feel uneasy, and ones in which they may well generate uneasiness in others. The individual recognizes that certain situations will produce this alienation in him and others, and that other situations are quite unlikely to do so. He recognizes that certain individuals are faulty interactants because they are never ready to become spontaneously involved in social encounters and he will have folk-terms such as 'cold fish', 'kill-joy', 'drag', 'wet blanket' to refer to these refractory participants. Those who fail to support conversations with their social betters he may call snobs; gauche; while those who disdain involvement with their inferiors he may call snobs;

6. There is in fact a small literature in 'applied human relations' detailing ways in which the superordinate can imply that an interview is over, allowing the actual leave-taking to be initiated, in a face-saving way, by the other.

7. For psychoanalytic versions of this theme see Ralph Greenson (5) and Otto Fenichel (3). Some interesting observations on the cult of boredom and the place of this cult in the world of an adolescent can be found in J. D. Salinger's novel, *The Catcher in the Rye* (7).

in either case condemning these persons for putting rank before interaction. As previously suggested, the individual will also know some persons who are faulty because their manner and social attributes make it difficult for others to become properly involved. It is apparent, too, that in any interaction a role-function develops, that of ensuring that everyone becomes and remains spontaneously involved. This sparking function may be fulfilled by different participants at different times in the interaction. Should one participant fail to help keep the interaction going, other participants will have to do his share of work. An individual may acquire a reputation for this kind of labor, creating gratitude or resentment as one who is always the life of the encounter.

VI. GENERALIZING THE FRAMEWORK

1. The Context of Involvement Obligations. One limitation we have set ourselves is to deal with situations where all those present to one another are officially obliged to maintain themselves as participants in conversation and to maintain spontaneous involvement in the conversation. This is a frequent enough condition to serve as a reference point, but there is no need to be ultimately bound by it. Involvement obligations are in fact defined in terms of the total context in which the individual finds himself. Thus there will be some situations where the main involvement of those present is supposed to be invested in a physical task; conversation, if carried on at all, will have to be treated as a side-involvement to be picked up or dropped, depending on the current demands of the task at hand. There will be other situations where the role and status of a particular participant will be nicely expressed by his right to treat a conversation in a cavalier fashion, participating in it or not, depending on his inclination at the moment. A father sometimes has this right regarding the mealtime conversation maintained by lesser members of the family, while they do not.

I should like to cite another way in which the individual may accept a different allocation of involvement for himself from that expected of others. In the teasing that the young receive from the old, or in the interrogations that employees receive from employers, loss of composure on the subordinate's part may be accepted by the superordinate as an expected and proper part of the involvement pattern. At such times the subordinate may feel he would like to be spontaneously involved in the talk but is in too much of a panic to do so, while the superordinate may feel that for him the appropriate focus of attention, and one he can sustain with comfort, is not the actual talk but the wider situation created by the humorous plight of the inferior as he struggles in the conversation.⁸ In fact, if the subordinate shows composure on these occasions, the superior may feel affronted and embarrassed. Similarly there will be occasions when we feel an individual ought, out of respect for the difficulties he is in, to be preoccupied or over-involved. This misinvolvement may somewhat disrupt the interaction, but perfect poise on his part might so scan-

8. The plight of the self-conscious person is in fact so good a stimulus for calling forth spontaneous involvement on the part of those who witness it, that during conversations where there may be difficulty in capturing the involvement of those present, individuals may take turns both at committing minor infractions against propriety and at becoming embarrassed, thus ensuring involvement. Hence the paradox that if all the rules of correct social behavior are exactly followed, the interaction may become flaccid, stale, and flat.

dalize those present as to disrupt the interaction even more. Thus while it is true that sometimes an individual will be thought an interaction hero if he remains involved in a conversation under difficult conditions, at other times such loyalty will be thought foolhardy.

Differential obligations regarding the same spoken interaction may be seen most clearly in large-scale interactions, such as public speeches, where we are likely to find specialization and segregation of involvement roles, with a division between full participants, who are expected to talk or listen, and non-participating specialists, whose job is to move unobtrusively about and look after some of the mechanics of the occasion. Examples of these non-participants are domestics, ushers, doormen, stenographers, and microphone men. The special alignment these officials have to the interaction is their particular right and obligation; it is accepted openly by them and for them, and they would in fact cause uneasiness were they to become manifestly involved in the content of the talk. They show respect for the occasion by treating it as a side-involvement.

Participants, themselves, in large-scale interaction can have a license in regard to involvement that could not be afforded them in two- or three-person talk, perhaps because the more participants there are to sustain the proceedings, the less dependent the occasion will be on any one participant. In any case, we often find in large-scale interaction that it is permissible for a few participants to enter for a moment into by-plays and side-discussions, providing they modulate their voice and manner to show respect for the official proceedings. In fact, a participant may even leave the room for a moment and do this in such a way as to convey the impression that his main focus of attention is still held by the talk, even though his body is not present. On such occasions, main involvement and side-involvements may become fictions maintained officially in form while alternate involvement patterns are actually maintained in practice.

2. *Pseudo-conversations.* We have so far restricted our attention to interactions that have as their constituent communicative acts the turns at talking taken by participants. We can extend our view and consider conversation-like interactions in which the token exchanged is not speeches but stylized gestures, as in the interchange of non-verbal greetings,⁹ or moves of some kind, as in card games. These unspoken yet conversation-like interactions seem to be similar, structurally, to spoken interaction, except that the capacities that must be mobilized in order to carry on such interaction seem to have more to do with muscular control of limbs than in the case of spoken interaction.

3. *Unfocused Interaction.* I have suggested that speech-, gesture-, and game-inter-

9. The following is an instance of psychiatrist-patient interaction that is verbal on one side only:

“... in the course of an analysis of a very disturbed schizophrenic with depressive features the patient hid herself within her only garment, a blanket, so that only the eyebrow showed; nothing daunted I continued the conversation from where we left off last time and noted changes in that eloquent but only visible member, which changes—a frown, scowl, surprise, a flicker of amusement, a softening of the curve—indicated the changes in her mood and thought. My surmises proved correct for when next she displayed her face and used her voice she corroborated the general trend of my guesses as to what had gone on in her mind. That session was no verbal *interchange*—it might even be called an eye-brow analysis—but there was an endeavour to verbalize, to conceptualize and make concrete “in the here and now” what was occurring concurrently in her mind.” John Rickman (6, p. 189).

actions are characterized by a single official focus of cognitive and visual attention that all full-fledged participants help to sustain. (The focus of visual attention may move, of course, from one participant to another as one speaker gives up his speaking-role and returns to the role of listener.) With this focused kind of interaction we must contrast the unfocused kind, where individuals in one another's visual and aural range go on about their respective business unconnected by a shared focus of attention. Street behavior and conduct at a large social party are instances.

When we examine unfocused interactions we find that involvement obligations are defined not in relation to a conjoint focus of cognitive and visual attention but in relation to a role that can be suggested by the phrase 'decorous individual non-interferingly going about his proper business'. Once we shift to this point of reference, however, we find that all the kinds of misinvolvement that occur during focused interaction also occur during unfocused interaction, though sometimes under a different name. Just as an adolescent may become self-consciously uneasy when talking to his teacher, so, in walking into a full classroom, he may feel that he is being critically observed and that his way of walking, which he feels is stiff and wooden, reveals his social anxiety. Just as we can have preoccupied persons in conversational interaction, so in unfocused interaction we can have 'absent-minded' participants, who by their posture, facial expression, and physical movements suggest that they are momentarily 'away', that they have momentarily let fall the expressive costume that individuals are expected to wear whenever they are in the immediate presence of others. And, of course, boredom, too, can occur during unfocused interaction, as we may observe in almost any queue of individuals waiting to buy a ticket. And just as agencies such as alcohol and marijuana may be employed to transform a conversation into something that is not embarrassing or boring, so these may function to put individuals at ease in the wider scene provided by unfocused interaction. Just as a witticism may do honor to the conversational moment, so the wearing of new or special clothing, the serving of rare or costly food, and the use of perishable flowers can draw attention to the unique value of a wider social occasion. Clearly, then, there are ways in which the perspective employed in this paper can be used for studying unfocused interaction.

We must not, however, expect the similarity between the two kinds of interaction to be too complete. For example, it appears that individuals are more frequently unself-conscious in their capacity as participants in unfocused interaction than they are as participants in focused interaction, especially focused interaction of the spoken kind. In fact, in spoken interaction, spontaneous 'normal' involvement seems to be the exception and alienation of some kind the statistical rule. This is understandable. On the one hand, participants are required to be spontaneously carried away by the topic of conversation; on the other hand, they are obliged to control themselves so that they will always be ready to stay within the role of communicator and stay alive to the touchy issues that might cause the others to become ill at ease. On the one hand they are obliged to adhere to all applicable rules of conduct, on the other they are obliged to take enough liberties to ensure a minimum level of involving excitement. These obligations seem to be in opposition to each other, requiring a balance of conduct that is so delicate and precarious that alienation and uneasiness for someone in the interaction are the typical result. Unfocused interaction does not seem to require the same delicacy of adjustment.

VII. CONCLUSION

Many social encounters of the conversational type seem to share a fundamental requirement: the spontaneous involvement of the participants in an official focus of attention must be called forth and sustained. When this requirement exists and is fulfilled, the interaction 'comes off' or is euphoric as an interaction. When the encounter fails to capture the attention of the participants, but does not release them from the obligation of involving themselves in it, then persons present are likely to feel uneasy; for them the interaction fails to come off. A person who chronically makes himself or others uneasy in conversation and perpetually kills encounters is a faulty interactant; he is likely to have such a baleful effect upon the social life around him that he may just as well be called a faulty person.

Of any individual, then, it will be significant to know whether his status and manner tend to hinder the maintenance of spontaneous involvement in the interaction, or to help it along. It should be noted that this information pertains to the individual in his capacity as interactant, and that, regardless of the other capacities in which he may be active at the time, the role of interactant is something he will be obliged to maintain.

Social encounters differ a great deal in the importance that participants give to them but, whether crucial or picayune, all encounters represent occasions when the individual can become spontaneously involved in the proceedings and derive from this a firm sense of reality. And this kind of feeling is not a trivial thing, regardless of the package in which it comes. When an incident occurs and spontaneous involvement is threatened, then reality is threatened. Unless the disturbance is checked, unless the interactants regain their proper involvement, the illusion of reality will be shattered, the minute social system that is brought into being with each encounter will be disorganized, and the participants will feel unruly, unreal, and anomic.

Aside from the sense of reality it offers, a particular encounter may be of little consequence, yet we must see that the rules of conduct that oblige individuals to be able and ready to give themselves up to such moments are of transcendent importance. Men who are held by these rules are held ready for spoken interaction, and spoken interaction between many kinds of people on many kinds of occasion is necessary if society's work is to be done.

The sense of reality that has been discussed in this paper takes its form in opposition to modes of alienation, to states like preoccupation, self-consciousness, and boredom. In turn, these modes of disengagement are to be understood by reference to the central issue of spontaneous involvement. When we have seen the way in which a spoken encounter can succeed or fail in bringing its participants to it, and have seen that unfocused interaction can be looked at in the same way, we have a lead to follow in the understanding of other kinds of commitments—the individual's occupational career, his political involvements, his family membership—for there will be a sense in which these wider matters consist in recurrent occasions of focused and unfocused interaction. By looking at the ways in which the individual can be thrown out of step with the sociable moment, perhaps we can learn something about the way in which he can become alienated from things that take much more of his time.

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BIOGRAPHICAL NOTE

ERVING GOFFMAN carried out field research in the Shetland Islands from 1949 to 1951, while he was an Instructor in the Department of Social Anthropology at the University of Edinburgh. Between 1952 and 1954 he was Research Assistant and later Research Associate in the Division of Social Sciences, University of Chicago, where he received his Ph.D. in 1953. Since 1954 he has been Research Associate, Visiting Scientist Program, Laboratory of Socio-environmental Studies, National Institute of Mental Health, Public Health Service, Department of Health, Education and Welfare.

The Role of Class in Structuring Inter-group Hostility¹

JUDITH T. SHUVAL

INTRODUCTION

THIS study is concerned with the structuring of intergroup hostility in a situation of religious homogeneity and ethnic diversity.² A comparatively rare opportunity to examine this problem is offered in Israel, where the new immigrant population is composed on the one hand entirely of Jews (religious homogeneity), and on the other of groups hailing from a wide variety of countries. Ethnic origin is defined within the context of this study as the country of emigration.

The problem will be considered within a social context of free-floating frustration and latent aggression. We shall examine the structuring of hostility with particular reference to its focusing on specific ethnic groups in the population. The general theoretical frame of reference will be that of the frustration-aggression-displacement theory (see Allport, 1, p. 350). The object of displacement will be considered in terms of ethnic groups. The general problem may be stated as follows: In an ethnically heterogeneous situation of generalized frustration, what role is played by the different ethnic groups in the structuring of hostility? Specifically which ethnic groups will be chosen as targets of hostility and how is this choice related to their class position in the community? Kluckhohn has pointed out that when many people are frustrated there results a 'free-floating' anxiety that is waiting to fasten on to something. What it will fasten on depends on the culture patterns of the society and on the frustrating situation at hand (paraphrased in Klineberg, 2, p. 208). We are suggesting that what it will fasten on is closely related to particular aspects of the social structure, specifically class and ethnic groupings.

The empirical data for the examination of this problem were gathered in an Israeli housing community, Bet Mazmil, in the suburbs of Jerusalem. The population consists of Jewish immigrants to Israel who arrived between 1949 and 1952, and is composed of seventeen ethnic groups that emigrated to Israel from Rumania, Poland, Hungary, Czechoslovakia, Germany, Yugoslavia, Bulgaria, Russia, Morocco, Tunis, Algiers, Libya, Egypt, Iraq, Turkey, Yemen, and Iran. At the time of the study the Bet Mazmil community consisted of 450 families. Eight hundred and six interviews were conducted with husbands and wives in almost all the families. The field work took place between March and May 1953. In order to interview residents in their native languages, the questionnaire was translated into the following languages and dialects: Yiddish, German, French, Ladino (a form of Spanish spoken by some Jews from Turkey, Greece, Bulgaria, and other countries), Moroccan Arabic, Iraqi Arabic, and Yemenite Arabic. The questionnaire was

1. This study was carried out as a part of the UNESCO studies in social tension. For a fuller account see (4).

2. For a more detailed discussion of this problem see (3).

primarily a closed one and all of the attitudes are analysed as Guttman scales or quasi-scales. Class was defined in terms of a quasi-scale based on Chapin-like items observed in the home: books, flowers, a rug, pictures, and curtains.

FRUSTRATING ELEMENTS IN THE SOCIAL STRUCTURE

The Bet Mazmil immigrant community offers a particularly useful case study against a background of generalized frustration and latent aggression. There would seem to be several elements in the social system of Israeli society in general and of this community in particular that play an important role in the overall frustration of a relatively large proportion of the Bet Mazmil population. These are as follows:

1. The housing provided at Bet Mazmil is of minimal standard. This is a problem of relative deprivation. Certain groups that emigrated from backward countries may well find even this housing superior to that which functions as their reference yard-stick. However, there is evidence that even such groups as Yemenites, Moroccans, Tunisians, Iraqis, Persians, and Turks, most of whom had lived in housing of a relatively inferior quality, found the Bet Mazmil housing to be inadequate. It is not weather-proof; interior doors and floor tiles must be provided by the tenant; the rooms including the kitchen are small; there is little storage space.

2. Certain food needs, particularly those associated with the specific cultural patterns of the different ethnic groups, were inadequately met. The period during which the study was carried out was one of a severe austerity program in Israel. Food rationing of a strict and relatively minimal variety was enforced.

3. The period during which the study was carried out was one of considerable economic strain. The population had approximately doubled: at the end of 1948 the Jewish population was 759,000, while at the end of 1952 it had risen to 1,460,000. The absorption of this large immigrant population, much of it unskilled and without capital resources, placed a tremendous burden on the economy. Jobs had to be supplied; food provided; housing constructed. And all of this had to be done quickly.

Considerable strain was the inevitable result. If the situation was difficult for the country as a whole, it had a particularly severe effect on this low-income community of new immigrants. The period was characterized by progressive inflation and increasing unemployment. The standard of living was low.

4. The entire population of the community of Bet Mazmil is composed of immigrants to Israel, most of whom had been in the country no longer than three to four years. Inherent in the immigrant status is the need to make an adjustment to a radically new environment. For some individuals this adjustment may come easily; for others it may involve considerable strain. There would seem to be reason to believe that the extent of this strain may bear a relation to the degree of difference between the social environment in the country of origin and the new one to which the immigrant must adapt himself. Needless to say, it also bears a direct relationship to the personality structure of the individual. It is this strain, generated by the readjustment process, that is likely to bring about a frustration of certain need dispositions.

5. The extreme ethnic heterogeneity of the population makes communication between members difficult. The population of the Bet Mazmil community is composed of immigrants from some seventeen different countries of origin. Although in certain cases the cultural differences between these groups may be relatively small,

in others it may be very great indeed. The question of differences between ethnic groups must be considered both from the point of view of the culture of the country of origin, as well as from the point of view of differences in the religious culture. For not only do the immigrants differ from each other with respect to the culture of their country of origin, but they are also characterized by marked differences in their practice and understanding of Judaism. The wide variety of countries from which these people emigrated, coupled with their unique forms of religious culture, combine to produce an extremely large number of cultural types.

In addition to the extreme differences in values, reference concepts, and behavioral patterns that serve to make communication between individuals in this community basically difficult, there is the related and more elementary problem of language. Among the Europeans Yiddish acts as a lingua franca for some of the groups. But many of the younger people speak only the language of their country of origin. Among the non-Europeans the problem is considerably more difficult; many of them, having emigrated from Arab countries, speak Arabic. However, the differences between the Arabic dialects are often so great as to make people not originating in the same country incomprehensible to each other.

6. A further problem of communication exists between the immigrant community and the rest of Israeli society. This difficulty of communication results in a certain absence of understanding and appreciation by these two segments of the population for each other. The immigrant population is particularly hard hit by this problem. Unable to read the Hebrew press, often without access to a radio, frequently with no personal acquaintances among 'old-timers', bewildered by a new and strange social environment, the immigrant is often unable to comprehend government policies that affect him personally or aspects of the social structure that seem oppressive to him. There was little understanding, for example, of the government's rationing plan. Many immigrants felt that this program represented an attempt to deprive them unjustly of necessary food. The meat shortage was particularly misunderstood. The problem of hard foreign currency in relation to the Israeli economic situation—which formed the basis for the rationing program and particularly for the meat shortage—were inadequately understood by a large part of the immigrant population at Bet Mazmil. Similarly with little conception of the equalitarian ethic that plays a major role in Israeli ideology, immigrants from Oriental countries had little understanding of universal army service—for both men and women. In many cases they felt this to be a violation of the traditional role of the woman as prescribed in the religious tradition.

7. For many immigrants the reality of the Bet Mazmil community did not correspond with the aspirations that had been instilled in them before immigrating. Israeli officials, anxious to recruit as many immigrants as possible and to encourage individuals who might be doubtful, often made extravagant promises about 'life in the new country'. There was talk of good jobs, abundant food, pleasant housing. Many immigrants were grossly disillusioned by the realities of the Israeli situation.

8. Certain feelings of resentment and jealousy against those Israelis who were 'old-timers' relative to the immigrants developed among the newcomers. Those feelings were rationalized with the observation that by and large the old-timers had better jobs as well as better housing than the immigrants. This observation was often verbalized in the form that all the good jobs and good housing were *monopolized* by the old-timers. As in the case of most stereotypes, there is a basic truth to this one: many old-timers do in fact have more skilled and better paying jobs than many

immigrants. Furthermore most of the old-timers lived in housing that was considerably superior to the low-cost, subsidized housing that was being put up in huge quantities by the government over-night for the immigrants. Inevitably the old-timers were already established in their jobs and in their homes; in cases where there was competition for such scarce and valuable commodities, the old-timer had the inherent advantage of having been there first.

A certain hiatus between the immigrant and old-timer sectors of the population tends to reinforce this stereotype and these feelings of resentment. More often than not, immigrants and old-timers come into relatively little social contact with each other. If the immigrant is an unskilled worker, the old-timer he might be in contact with on the job would be likely to be the foreman or manager, with whom social contact even within the job context is at a minimum. Needless to say, there are old-timers of a low socio-economic status position as well, but the general image of the old-timer in Israel is one of a privileged member of society.

The term *vatik*, which is the name given to old-timers, carries a general aura of privilege and well-being. It is a distinctly value-laden concept. In a society in which certain adjuncts of high value—such as jobs, housing, clothing—are extremely scarce, seniority can come to play a major role in their allocation. Seniority represents a relatively clear-cut criterion of allocation and one that is open to a minimum of disputes; although certain important deviations from a general rule of seniority were followed in recognition of the special status of the new immigrant (such as in the building of special low-cost immigrant housing and the provision of a large number of public works jobs), the more general rule in the allocation of desiderata in Israel has been in terms of seniority. Needless to say, in a highly mobile immigrant society a criterion of seniority serves as a self-protective mechanism for those who are in positions of greater power or who have access to scarce goods. Without such a criterion, they would be in a constant state of competition with newly arrived members of the group.

In terms of such a criterion of allocation, the immigrant is by definition in an unfavorable position for acquiring a portion of the scarce goods. His ascriptive qualities are such that he cannot attain a measure of seniority greater than that of the old-timer—*vatik*. The exceptions from the seniority rule that are made in recognition of his special status as a new immigrant do not mitigate the fact that the *best* housing and the *best* jobs go to those who arrived in the country some years before him. What is more, the standard of the public housing provided for immigrants and the types of job created for them were of considerably lower quality than those available to persons with seniority.

It can be seen that such a situation represents a structure that is built into the social system and, while it accords a considerable measure of security to one segment of the population, it is likely to breed a large measure of resentment and frustration in the other.

CLASS AS A DETERMINANT OF THE FOCUSING OF HOSTILITY

The basic problem being dealt with concerns class position as a factor in the relative vulnerability of ethnic groups to hostility. In a situation of ethnic heterogeneity and generalized frustration, which groups will be singled out from the rest

as legitimate targets for the focusing of hostility? What we are actually dealing with, therefore, may be considered to be a form of 'scapegoating'. Having posed the problem against a general background of generalized frustration and latent aggression, we are starting out with the assumption that the channeling of hostility is not related to intrinsic characteristics either of the source or of the target groups, but rather to certain features of the social system that legitimize one particular target over another. We are therefore not concerned in this study with hostility between groups that has its basis in actual maltreatment or real conflicts of interest, e.g. economic exploitation, competition for jobs or for scarce goods, etc. In such cases hostility can be explained on fairly evident grounds. Our problem takes place in a situation with no real conflict between groups but with a generalized frustration that tends to become displaced on to certain groups. These groups act as targets, not because the attackers have anything in particular against *them*, but by virtue of the role they play in the social system. Essentially the problem may be said to concern the objects on to which displacement occurs. It will be our general hypothesis that the selection and legitimation of scapegoats may be closely associated with the class structure of the community. Such a hypothesis does not mean to imply that other factors may not also structure this focusing of hostility. We are assuming, however, that one crucial dimension is that of class.

It may be suggested that in a situation of ethnic heterogeneity, where group identifications are strong, one of the major dimensions of class structuring is ethnic membership. In other words, that ethnic groups acquire a certain symbolic status position and are ranked relative to each other in some sort of class hierarchy. One element in the reasoning behind such a proposition is the fact that members of a given ethnic group, having relatively similar educational, cultural, and occupational backgrounds, would be likely for these reasons to cluster in a similar socioeconomic position. Thus the group acquires a symbolic class position in the community based on the predominant status position of its members.³

Such structuring depends on the relative homogeneity of class position *within* the ethnic group. It assumes that there is greater homogeneity in this respect within than between groups. In an immigrant community, such as the one we are considering, this problem is related to the extent of class differentiation of members of each group in the country of origin. The fact that our population consists entirely of Jews serves to focus this problem more acutely. For by and large Jews did not tend to spread over a very wide range of class positions in the countries from which they emigrated.

Any sort of hierarchical ranking requires as a basic prerequisite a differentiation among units. No meaningful ranking can take place in a situation in which units are essentially homogeneous on all observable characteristics. The more distinguishable the criteria of differentiation to others relevant in the situation, the more likely would they be to be chosen as the criteria of stratification. It is for this reason that it is suggested that ethnic membership, acting as a clearly evident basis of differentiation as well as one that carries considerable meaning to a new immigrant population, would be likely to serve as a major dimension of stratification. This proposition assumes *heterogeneity*, in the sense that ethnic groups are different from each other with respect to observable cultural characteristics.

3. It should be noted that, although this structuring exists in our community, there is nevertheless a sufficient spread of the ethnic groups among the different classes to allow of a meaningful analysis of the two variables.

The hypothesis with which we shall deal here concerns the *vulnerability* of groups to hostility as related to their rank position in the class hierarchy. It will be proposed that one meaningful criterion of vulnerability is class position in the community.⁴ More specifically *it will be hypothesized that in a situation of generalized frustration the lowest groups in the class hierarchy may be the most vulnerable to expressions of hostility.* This hypothesis rests on the assumption concerning the distribution of power and authority and their concomitant sanctions among the class groups. Few sanctions are involved in expressing hostility against a lower-class group, while this is not generally the case for upper-class groups.

The second general reason behind this hypothesis concerns the negative symbolism that is conveniently attached to lower-class groups, and that serves to rationalize and reinforce hostility toward a clearly defined target group. This is what has been called the 'well deserved reputation' (Allport, 1, pp. 87-8; Zawadski, 5, pp. 127-8). This negative symbolism is rationalized and reinforced by objective fact and by the 'self-fulfilling prophecy'. Thus some lower-class groups *are* dirty, loud, uncouth, dangerously excitable, ignorant, uneducated, etc. What is more, the objective situation being what it is and the rationalizing mechanism operating to reinforce it, the predisposition to perceive these negative symbols is increased with reference to these particular groups.

THE EMPIRICAL EVIDENCE

The symbolic status position of the ethnic groups may be inferred from *Table 1*. As a whole, the European groups tend to cluster more in the higher socio-economic status groups. This may be seen in *Table 2*. However, there are rather marked differences *within* the Europeans and *within* the non-Europeans from ethnic group to ethnic group.

TABLE 1 SOCIO-ECONOMIC STATUS OF ETHNIC GROUPS

Ethnic Group	Socio-economic Status Percentage of Ethnic Groups in the Three Classes			Number
	High %	Middle %	Low %	
Rumanian	41	31	28	140
Polish	24	50	26	70
Hungarian	42	32	26	38
Other European	54	28	18	54
Moroccan	8	30	62	192
Other North African	12	32	56	59
Egyptian	17	33	50	40
Iraqi	4	28	68	25
Yemenite	16	45	39	38
Other non-European	35	39	26	65
Total	25	34	41	721

4. Another criterion of vulnerability might be ingroup-outgroup status. Additional criteria are also possible (see Allport, 1).

TABLE 2 SOCIO-ECONOMIC STATUS OF EUROPEAN AND
NON-EUROPEAN GROUPS

<i>Ethnic Group</i>	<i>Percentage of Ethnic Groups in the Three Classes</i>			<i>Number</i>
	<i>High %</i>	<i>Middle %</i>	<i>Low %</i>	
<i>European</i>	40	35	25	302
<i>Non-European</i>	14	33	53	419
<i>Total</i>	25	34	41	721

The picture that emerges from *Table 1* is a rough one but a certain inference as to a hierarchy of groups can be discerned. Clearly the Moroccans and Iraqis are at the bottom of the rank order. The other North Africans occupy a rather similar status position as a whole but, since there are too few cases in each of the specific groups making up this general category, it is difficult to draw any further implications other than to say that this group seems to be close to the bottom of the rank order of ethnic groups. It may be suggested that the Egyptians and Yemenites occupy the next overall rank position. Next would come the Poles. And finally at the top are the Rumanians and Hungarians. Needless to say this represents an extremely rough ranking. It is difficult to state with much certainty just where the smaller ethnic groups which are represented by few cases fall in the hierarchy, other than to place them on one side or the other of the European/non-European division line.

The empirical tool used to investigate the problem of hostility consisted of a question that required the respondent to name the ethnic group he disliked most in the community. Only one answer was requested, so there is some confidence that we are getting at the strongest felt hostility on the part of the individual toward ethnic groups in the community.⁵ *Table 3* presents the empirical answers to this question. In the present analysis we shall be concerned only with the column totals (marginals). These indicate the overall frequency with which each ethnic group was chosen as a target of dislike. The expression of dislike for a group will be taken as the starting-point for our analysis of hostility.

Table 3 indicates that the proportion of 'no answers' was quite large in this question. It is always difficult to interpret the meaning of such abstaining, and any inferences drawn can be only hypothetical. It should be considered to begin with that a certain proportion of the 'no answers' might be genuinely devoid of hostility; their failure to reply even after probing by the interviewer might simply be taken to mean that they do not harbor hostility toward any of the ethnic groups in the community. These people might have internalized the Israeli ethic of ethnic equality in such a manner as not to direct their hostility, if they feel any, toward an ethnic target. On the other hand, it should be considered that a large group of abstainers is to be expected in a question of this nature, in which the respondent is requested

5. The subsequent discussion concerning the large proportion of 'no answers' makes it clear why it was impossible to ask the respondent to name an additional group in order to obtain a gradation of attitudes toward ethnic groups. Pretesting revealed that the proportion of 'no answers' was too great to warrant the inclusion of such additional questions.

Gurion and members of his secular moderate-socialist party, Mapai, take this element of the ideology no less seriously.

Second, there is a strong equalitarian ethic in the Israeli ideology, which makes itself felt with respect to ethnic differentiation as well as in other areas, such as class, the occupational structure, dress, housing. This equalitarianism would tend to operate much as the American ethic does in tabooing overt indications of the inferior status of certain groups. In Israel this ethic seems to operate even more strongly, possibly because of the generally high level of the collective consciousness on which the ideology functions. Another possible reason for this phenomenon is the relatively narrow range of overall class differentials in wages, housing, clothing, etc., which tended to reinforce the equalitarian ethic in the past. In this respect it is somewhat taboo to imply the inferiority of a given group by openly stating that one dislikes its members.

What is important for the systematic analysis is the fact that *Table 3* does not show any ethnic clustering in the 'no answer' category, so there is no reason to assume an ethnic bias among those who did reply. It will be noted that about half of the respondents in all the ethnic groups refused to answer this question. Such a phenomenon would seem to suggest that 'no answer' is more a function of different personalities reacting to the two elements of the Israeli ideology discussed above, than of structural features of the social system. It may also represent a genuine internalization of the Israeli ethic and an absence of hostility. Our data do not permit a separating out of these elements among the 'no answers'.

Table 4 presents the percentage distribution of Groups Chosen as Targets of Dislike. This simply represents the percentage distribution of each column total out of the total number of responses of *Table 3* (without 'no answer'). It will be noted that the two groups that stand out in *Table 4* are the Moroccans and the Iraqis; 39 per cent choose the Moroccans and 26 per cent choose the Iraqis as the group liked least in the community. The 10 per cent who choose the diffuse category 'Sepharadim' represent too few cases (37) to allow for any meaningful analysis. The remaining frequencies are too small to be considered significant.

Not only were the Moroccans and the Iraqis chosen very clearly out of the entire set of ethnic groups available for choice, but the other groups were just as clearly *not* selected. The percentage of persons indicating a dislike of a group other than the Moroccans and the Iraqis is very small or absent altogether. This despite the fact that 19 per cent of the population are Rumanians and 10 per cent are Poles (see *Table 5*). Generally speaking, in consideration of the number of Europeans in the community, the number mentioned as disliked by others can be considered quite small. Thus not only is there a focusing of dislike on the Moroccan and Iraqi groups, but there is a focusing *away* from the European groups by all members of the community, non-Europeans as well as Europeans.

It will be recalled from *Table 1* that the Moroccans and Iraqis were the two groups occupying the lowest socio-economic status positions in the community. Fully 62 per cent of the Moroccans and 68 per cent of the Iraqis cluster in the lowest socio-economic status group. On the other hand, only 8 per cent of the Moroccans and 4 per cent of the Iraqis are located in the highest socio-economic class. The only possible exception is the general group termed 'Other North Africans', which is composed of Tunisians, Algerians, and Tripolitarians, none of which appeared in sufficiently large numbers to warrant any systematic conclusions. We should therefore seem to be justified in stating that the two groups occupying

TABLE 4 GROUPS CHOSEN AS TARGETS OF DISLIKE

<i>Ethnic Group Chosen</i>	<i>Percentage of Respondents* who selected a given Ethnic Group as most disliked %</i>
<i>Rumanian</i>	3
<i>Polish</i>	4
<i>Hungarian</i>	4
<i>Czechoslovak</i>	—
<i>German and Austrian</i>	—
<i>Yugoslav</i>	—
<i>Bulgarian</i>	—
<i>Russian</i>	—
<i>Other European</i>	—
<i>Ashkenazim**</i>	3
<i>Moroccan</i>	39
<i>Tunisian</i>	2
<i>Algerian</i>	—
<i>Tripolitanian</i>	1
<i>Egyptian</i>	—
<i>Iraqi</i>	26
<i>Turkish</i>	—
<i>Yemenite</i>	2
<i>Persian</i>	2
<i>Other</i>	4
<i>Sepharadim***</i>	10
<i>Total</i>	100

* Percentage calculated out of a total of 367 cases who answered this question.

** A generalized term for Jews of European origin.

*** A generalized term for Jews of non-European origin.

the lowest socio-economic status have been singled out in the community as targets of hostility by the rest of the population.

Before accepting the hypothesis as proven, however, it should be considered whether Moroccans and Iraqis might be distinguished from the other ethnic group by some factor other than class in such a way as to render the present conclusion spurious.

It is of interest to note in *Table 3* that the group termed Sepharadim received only 37 or about 10 per cent of the responses. Sepharadim refers to the general category of Jews of non-European countries.⁶ If aggression were directed toward the generally low-status non-Europeans, we would expect this category to appear with a greater frequency. In effect, it is the writer's impression from observations both inside and outside the community that a certain hostility does exist toward the Sepharadim on the part of the rest of the population. It might be suggested, then, that the Moroccans, as the largest and most conspicuous of the non-European groups, were named in a symbolic sense to represent a certain hostility against the non-Europeans as a whole. If this is the case, why were the Iraqis mentioned? They

6. Sepharadim from a technical point of view does not refer to *all* Jews of non-European origin, but only to those practising the ritual in a certain prescribed manner. In common usage, however, the term has often come to be used by Europeans to refer to all Jews of non-European origin.

TABLE 5 DISTRIBUTION OF ETHNIC GROUPS
AT BET MAZMIL HOUSING PROJECT

<i>Country of Origin</i>	<i>Number</i>	<i>%</i>
<i>Rumania</i>	140	19
<i>Poland</i>	72	10
<i>Hungary</i>	38	5
<i>Czechoslovakia</i>	17	2
<i>Germany and Austria</i>	15	2
<i>Yugoslavia</i>	5	1
<i>Bulgaria</i>	4	1
<i>Russia</i>	9	1
<i>Other European Countries</i>	4	1
<i>Morocco</i>	195	27
<i>Tunisia</i>	27	4
<i>Algiers</i>	20	3
<i>Tripolitania</i>	13	2
<i>Egypt</i>	40	5
<i>Iraq</i>	25	3
<i>Turkey</i>	15	2
<i>Yemen</i>	38	5
<i>Persia</i>	12	1
<i>Other Countries</i>	45	6
<i>Total</i>	734	100

72 additional cases were of unindicated origin.

are one of the smallest non-European groups in the community and were not likely to be particularly conspicuous. Nor does there seem to be any evidence to lead one to believe that some or all of the Iraqis behaved in such a manner as to attract so marked an expression of hostility. The answer would seem to be in terms of the socio-economic status and concomitant vulnerability of these groups. It may be that a more general hostility toward Sepharadim (who occupy a generally lower status position than the Europeans, see *Table 2*) focuses specifically on the two lowest-class groups among the non-Europeans in the community as legitimate targets against which to express aggression. In this regard it should be noted that hostility is likely to be more satisfactorily expressed when focused on specific rather than on general targets. Such specificity of focusing is related to the discharge of a considerable store of motivational energy, which is likely to be involved in feelings of hostility. The location of specific targets permits the reinforcement of stereotypes and prejudices in a manner that is less convenient for general targets.

The Moroccans and Iraqis are not distinguished from other groups by skin color. Although they are generally darker than most Europeans, they are not darker than the Yemenite, Persian, Egyptian, or Turkish immigrants. It would seem doubtful if these two groups could be distinguished by the color of their skin. In any case if this were the crucial variable, why were other dark-skinned groups not chosen?

Nor do the Moroccans or Iraqis speak a particular common language. As a matter of fact they both speak Arabic, but, as is common with Arabic, quite

different dialects. The difference in dialects is so great that Moroccan Arabic and Iraqi Arabic may be considered almost different languages. If it were to be argued that Arabic *per se* is the common and distinctive variable, it may be answered that the Yemenites and Egyptians also speak Arabic dialects.

Several other variables were examined, none of which seemed to show a meaningful relationship distinguishing these two groups from the rest. We are therefore led to accept the hypothesis that groups occupying the lowest socio-economic status position are highly vulnerable to hostility.

CONCLUSION

In considering the picture emerging from these data in terms of 'scapegoat' theory, certain limitations should be borne in mind. The type of target group of hostility under consideration is neither of the nature of an institutionalized 'all-duty' scapegoat, nor entirely of the *ad hoc* variety (see Allport, 1, pp. 243-59). The extreme newness of the community as well as the unfamiliarity of the different immigrant groups with each other would prevent the former. There does not seem to be a long-standing, institutionalized scapegoat in Israel in general, and this is particularly true among the new immigrants. There is, for example, no group that serves the function that the Jews do in other societies. On the other hand, to consider the structuring of the situation as it emerged as a purely *ad hoc* structuring, would seem to imply too large an amount of impermanence to the phenomenon. We are not in a position to predict with any validity as to the permanence or impermanence of the present situation at Bet Mazmil; the social structure is a highly dynamic one and it would seem impossible to predict accurately with respect to any specific element of it. At the same time, it is our feeling that the singling out of the Moroccans and Iraqis represents more than a momentary response to an immediate gesture that the Moroccans act as scapegoats in a wider context than that of this particular community, although the situation with respect to the Iraqis is less clear. In any case it would seem most appropriate to consider the type of scapegoat involved here as falling somewhere between the institutionalized all-duty type and the *ad hoc* variety.

What makes our situation particularly interesting for the study of the structuring of the scapegoat phenomenon, is the fact that major prejudgments or historical antagonisms are relatively absent. In effect most of the groups had had relatively little experience of each other. At most they had lived together briefly in the transit camps. However, the type of historical predisposition that makes Jews, for example, appropriate scapegoats in so many societies, did not exist in our situation. On the contrary, it might be said that there was, despite great variability in ethnicity, a certain homogeneity in the population: all were Jews, all were immigrants, all were of a relatively low socio-economic status position. The process of locating scapegoats may, in a certain sense, be said to be operating in an 'uncontaminated' situation. The question as posed is: in a situation relatively uncontaminated by previous prejudices and predispositions with respect to ethnic membership, which groups will be focused on as scapegoats? Needless to say, such a 'pure' situation does not occur too frequently in a real-life situation. The Israeli community represents a relatively rare historical experiment in this sense, and one that may possibly

serve to point up all the more clearly the processes involved in scapegoating. On the other hand, the reader should bear in mind the almost unique social situation that is being considered, to avoid applying our findings to situations in which they are not entirely appropriate.

The problem before us was one of locating the most *vulnerable* groups in the community, groups that could be attacked without incurring sanctions on the attacker. In a general sense it may be said that a group is vulnerable when no meaningful sanctions are exercised on the attacker. 'Although anybody would do, some persons are preferable: those who cannot strike back, who are weak, defenseless, or dependent on the aggressor. These are predestined to become innocent victims of aggression when the cause of frustration is impersonal, or its author too dangerous to be attacked' (5, p. 128). One dimension of vulnerability relates to the relative control of power and authority as organized in terms of the class system. A group is likely to be vulnerable to an extent relative to its position of control or authority as regards the exercise of formal or informal sanctions against its attackers. In a general sense a lower-class group is in a relatively inferior position in this respect as compared to upper-class groups. We are not suggesting that other dimensions of vulnerability may not exist (e.g. out-group status may make a group vulnerable to an in-group), or that other historical or social conditions may not operate in the selection of scapegoats. Allport (1) has pointed out that no single factor is adequate to explain prejudice in general and scapegoating in particular. What we are suggesting is that one crucial dimension of vulnerability is class position. This would appear to be particularly true in a situation that is characterized by an absence of major prejudgments or historical antagonisms.

It is of some interest to note that we are not suggesting that the target of hostility will be a defenseless *minority* group. This is in line with criticism of traditional scapegoat theory proposed by Allport (1, p. 351) and Zawadski (5). In effect our data demonstrate that a group occupying a plurality, if not a majority, position in the community may be singled out as a legitimate target of displaced aggression. It will be recalled that the Moroccans were the largest ethnic group in the Bet Mazmil community. The crucial point in terms of our data would appear to be class position rather than minority status. For a minority is not necessarily defenseless.

The question that may be raised at this point concerns what actual sanctions *could* be exercised by the upper-class groups at Bet Mazmil against persons who expressed hostility toward them? This question is particularly pointed in view of the fact that we know that the entire class system has relatively little spread in this public housing community: the entire population is in fact a relatively low-class one.

The answer may be given in terms of a certain symbolic and potential power that the upper-class groups at Bet Mazmil may be said to wield. It will be recalled that the Europeans taken as a whole occupied a higher class position than the non-Europeans. More specifically the Rumanians and Hungarians among the Europeans were in the highest status positions in the community. Looking at Israeli society as a total social system, it may be said that Europeans occupy positions of power and authority considerably more than do non-Europeans. Europeans occupy high government positions, they are the employers and the more affluent business men, they control the free professions. Furthermore, they are likely to be the foremen, the responsible officials at the labor exchange, the doctors, teachers, middlemen, the responsible officials, with whom the new immigrant will be most likely to come in contact in the course of his attempts to establish his household in a new

country. From an overall point of view the non-Europeans occupy far fewer of these positions than do the Europeans. So that in this respect the European may become a figure symbolizing power and authority in the Israeli social system to the new immigrant. Thus even though the specific European living at Bet Mazmil may occupy a fairly low socio-economic position relative to the total society as well as a fairly impotent power position, through the symbolic image of the European in the total society, power and authority, which he in fact does not possess, are imputed to him.

On a concrete level it may be suggested that a feeling seems to exist in the community that this symbolic power of the Europeans might in certain cases be realized in fact. This feeling stems from the fact that the lines of communication and influence in the small Israeli society are highly ramified and reach to many corners of the social system. Everyone seems to know 'someone' and this someone is frequently a person of power and authority. In an immigrant society such as the one we are dealing with, these lines of communication are particularly highly developed within the ethnic group. So that there may be a real feeling in the community that a potential power of the local Europeans could be actualized through contacts and communication with other Europeans in the country who in fact occupy real positions of power. X, an Hungarian resident of Bet Mazmil, may know the chief official at the labor exchange from the 'old country'. Y, a Rumanian resident, may have gone to school with the head of the public works department of the government. Z, a Polish member of the Bet Mazmil community, may be related to the chairman of the local histadrut (union) office. So that there is a general feeling in this respect that the vicarious and symbolic power position of the Europeans as a group might in fact be actualized if they so desired. Whether it really could be actualized in practice is for the present purposes less important than the perceived potentiality.

A further factor to consider concerning the choice of the lowest-class groups as targets of hostility in a situation of generalized frustration is the generally negative symbolism that can be conveniently associated with such groups. Adjectives such as dirty, noisy, ignorant, uncouth, quarrelsome do in fact apply in large measure to the lowest-class groups. Whether because of the self-fulfilling prophecy or because of their economically underprivileged position *per se*, these people do in fact conform in large measure to a negative and undesirable stereotype thus reinforcing the attitude toward them. Furthermore, the extent to which these negative characteristics exist serves to reinforce their perception on the part of persons who are motivated to perceive them, so they are often magnified out of proportion to reality. Thus perception ceases in fact to be veridical.

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BIOGRAPHICAL NOTE

JUDITH SHUVAL received her B.A. in sociology from Hunter College and her M.A. and Ph.D. from Radcliffe College, the latter in 1955. At present she is working for UNESCO as an expert on social research at the Israel Institute of Applied Social Research, where she is engaged in analysing data on the adjustment of immigrants.

C. G. Jung on the Present Trends in Group Psychotherapy¹

HANS A. ILLING

FOR the purpose of research in connection with an article concerning a new perspective in group psychotherapy (1), the writer communicated with Professor Jung in order to clarify certain points that, in the writer's mind, were ambiguous. The correspondence ensuing from the initial communication was made in German, and the letters have been translated into English essentially, although not completely.

Los Angeles, California
January 14, 1955

Dear Dr. Jung,

For some time I have been engaged with a psychologist in preparing a historical survey of group psychotherapy at the request of a German medical journal.

While my collaborator and I belong to different schools of thought and while each of us is taking different parts of the subject, both of us agree on one point fully: our admiration of the school founded and headed by you, your creation of the theory of the Unconscious, and the vast potentialities of your theories relative to group psychotherapy, which you don't seem to have appreciated so far as we could ascertain from the literature.

As I understand your conception of the *Wandlungserlebnis*, it centers around the identification of the individual with several individuals, who, as a group, undergo a collective *Wandlungserlebnis*. In such an experience it can happen that a deeper level of consciousness is excited than in the ordinary experience of the individual. If I understand you correctly, a species of common *Tierseele* (animal soul) is born when the group is large enough. It seems that you draw the conclusion from this that the 'morale' of large organizations is always low. In my opinion, however, some therapies can be much more effective in the group because the togetherness of many produces virtually a mass suggestibility. Certainly I will admit that inevitably psychological regressions may take place in a group; however, these regressions are partially checked by ritual, i.e. cultic action. Cultic action seizes the attention of the individual and, simultaneously, makes it possible for him to experience his own catharsis in the group and to become conscious of his catharsis. If, on the other hand, a connection with the centre is missing, a connection which symbolizes the unconscious, then the *Massenseele* (group-soul) will inevitably become the centre and will absorb individual instinct or initiative.

Having studied your writings much and long, I note that you repeatedly emphasize that there are positive experiences which inspire the individual to good deeds or, as you call it, *ein positives Gefühl der menschlichen Solidarität*, a positive

1. Presented at the Second Annual Meeting of the Group Psychotherapy Association of Southern California in Los Angeles, 11 June 1955.

feeling of human solidarity, to me, perhaps, the finest piece of expression I have ever come across in the literature, especially if applicable to group psychotherapy. On the other hand, my collaborator and I believe that, conceivably, you are in error to equate the group with the loss of the ego. To us, this is a generalization, since the belonging to a group *per se* does not constitute regression but rather a greater understanding of the ego! As we shall point out in our paper, 'as the therapist applies clinically both factors, heightened suggestibility and group pressure, the methods of group psychotherapy will become particularly effective in the exploration of the unconscious of every member of the group.'

Our paper is not yet completed. I am turning to you with the request to submit some personal comments on the question whether your antipathy to group psychotherapy derives from the general logic of your theory of the maturing of the individual or from other causes. We have attempted to be as objective as possible in the description of the various schools of thought in our paper; yet it seems to me that nothing could be more 'objective', more scientifically accurate, than an explanation, however brief, from the inaugurator of a school himself.

May I add that I have just received a copy of the first English translation of your *Answer to Job* (2), which I was asked to review. I also received the German edition of your contribution to *Der Göttliche Schelm* (4). After a hasty examination of both books I feel that these are superb works, worthy of their author and a fitting present for your forthcoming (80th) birthday on 26 July.

Thanking you in advance for your courtesy,

Very respectfully,
Hans A. Illing.

Dr. Jung's answer to the above letter was as follows:

Kuesnacht bei Zürich
January 26, 1955

Dear Dr. Illing,

As a physician, I consider any psychic disturbance, whether neurosis or psychosis, to be an individual illness; the patient has to be treated accordingly. The individual can be treated in the group only if he is a member of it. If he is, this should be a great help, since, being submerged in the group, he apparently escapes his self to some degree. The feeling of security is increased and the feeling of responsibility is decreased when one is part of a group. Once I ran into a thick fog, while crossing over a treacherous glacier with a company of soldiers. The situation was so dangerous that everybody had to stop wherever he happened to be. Yet there was no trace of panic, but rather the spirit of a private party! If only one or two persons had been there, the danger of the situation would probably not have been recognized. Now, however, the brave and the experienced in the company found the opportunity to show off. The timid ones were able to lean on the strength of their brave comrades, and nobody said a word about the possibility of having to camp unprepared on the glacier, which could hardly have been done without some limbs being frozen, let alone the chances of death in attempts to climb from the glacier. This is typical of the mind of the group.

Younger people, in larger groups, often do mischief, which they would never undertake alone. So, in war as a result of group pressure, neuroses disappeared in our soldiers over night. The group experiences of sects, e.g. the so-called Oxford Movement, are well known; likewise the cures of Lourdes, which were unthinkable

without an admiring audience. Groups cause not only astonishing cures but just as astonishing psychic 'changes' and conversions, *because the suggestibility is increased*. This was recognized a long time ago by the totalitarian dictators; hence the mass parades, noise, etc. Hitler inspired the greatest group experience of change which Germany has undergone since the Reformation; it cost Europe millions of dead.

Increased suggestibility means the individual's bondage, because he has been delivered to the influences of his environment, be these good or bad. The capacity to differentiate is diminished, also the feeling of individual responsibility, which, as in the Oxford Movement, is left to the 'Lord Jesus'. People have wondered about the psychology of the German Army. It was no wonder: Every single soldier and officer was just a mass product of suggestion, stripped of moral responsibility.

A small group, too, may be controlled by a suggestive *mind of the whole group* (*Gruppengeist*), which, if it is a good one, may have socially favorable influences, though at the expense of the mental and moral independence of the individual. The group *increases the ego*; i.e. the individual becomes more courageous, more impertinent and assertive, more secure, fresher, and less cautious; the *self*, however, is reduced and is pushed into the background in favor of the average. For this reason all weak and insecure persons wish to belong to clubs and organizations, even to a nation of 80 million! In this relationship the individual feels important, because he identifies himself with everybody else; on the other hand, he loses his self (which is the soul the devil is after and wins!) and his individual judgment. But the ego will only be pushed into the background by the group if it is not in accord with the opinion of the group. For this reason there is always the tendency of the individual in the group to give his assent to the majority opinion to the largest possible degree or, if this be possible, to attempt to impose his opinion on the group.

The annihilating influence of the group on the individual will be compensated for by one member, who identifies himself with the *Gruppengeist* and thus becomes the *leader*. For this reason there are always conflicts over prestige and power in the group, springing from the increase of the ego and the egotism of the mass. The ego's social self, so to speak, is multiplied by the number of members in the group.

I do not have any practical objections to group therapy, as I do not have any to Christian Science, the Oxford Movement, and other therapeutically effective sects. I myself founded a group almost forty years ago; however, that group was composed of 'analysed' persons, whose purpose was to define the social position of the individual. This group is still active today. For social position does not function in the dialectic relationship between the patient and the physician and, therefore, is unadjusted, which was the case with the majority of my patients. This misfortune became only apparent when the group was formed and therefore called for a mutual adjustment.

In my opinion, group therapy is only capable of educating the *social human being*. Attempts in this regard are being made in England, particularly with 'unanalysed' persons, on the basis of psychological theories inaugurated by me. Mr. P. W. Martin, Talboys, Hall Hill, Oxted, Surrey, England, could give you detailed information. I welcome these attempts positively. However, what I have said above about group therapy should not be taken to mean that it can replace individual analysis, i.e. the dialectic process between two individuals and the subsequent intrapsychic catharsis, the dialogue with the unconscious. Since the only bearer of life and the absolutely essential element of any kind of community is the individual, it follows that he and his quality are of consummate importance. The

individual must be complete and must endure; otherwise, nothing can exist, since any number of zeros still do not amount to more than zero. A group of inferior people is never better than any one of them, i.e. the group is also inferior; and the state which is composed of sheep only is never anything else but a herd of sheep, even though the herd is led by a shepherd with a biting dog.

In our time, a time which puts so much weight on the socialization of the individual because a special capacity for adjustment is needed, the psychologically oriented group formation is of even greater importance. In view of the notorious inclination of people, however, to lean on others and on isms rather than on inner security and independence, which should have first place, there is the danger that the individual will equate the group with father and mother and will, thereby, remain as dependent, insecure, and infantile as before. He may become adjusted socially. But what of his individuality, which alone gives meaning to the social fabric? Surely, if society consisted of superior individuals only, such an adjustment would be profitable; but, in reality, society is composed mainly of unintelligent and morally weak human beings, so that their niveau lies beneath that of one of its superior representatives, let alone the fact that the mass naturally suppresses the values of individuality. When a hundred clever heads join in a group, one big nincompoop is the result, because every individual is trammelled by the otherness of the others. There used to be a funny question: Which are the three largest organizations, the morale of which is the lowest? Answer: Standard Oil, the Catholic Church, and the German Army. Especially in a Christian organization one should expect the highest morality, but the necessity to bring into harmony various factions requires compromises of the most questionable kind. (Jesuitic casuistry and distortion of the truth in the interest of the institution!) The worst examples of recent date are National Socialism and Communism, in which the *lie* became the *raison d'être*.

Real virtues are relatively rare and constitute usually the achievements of individuals. Mental and moral laziness, cowardice, prejudice, and unconsciousness are dominant. I have behind me fifty years of pioneer work and, therefore, could tell a few things about these: there is, perhaps, scientific and technical progress. However, one has not heard yet that people in general have become more intelligent or morally better.

Individuals can be improved because they let themselves be treated. Societies, however, let themselves be seduced and deceived, temporarily even for the good. This refers only to temporary and morally weakening effects of suggestion (*Suggestiveffekte*). (It is for this reason that, with few exceptions, medical psychotherapists a long time ago abandoned any real therapy of suggestion.) One can never achieve the good easily; the more it costs, the better it is. Thus the socially good effects have to be paid for, usually later; but then with interest (e.g. the era of Mussolini in Italy and its catastrophic end). Summing up these reflections I arrive at the following conclusions:

1. Group therapy is necessary for the education of the social human being.
2. Group therapy does not replace individual analysis.
3. Both types of therapy complement each other.
4. The danger of group therapy lies in a stand still on a collective basis.
5. The danger of individual analysis lies in the neglect of social adjustment (*Anpassung*).

With kindest regards,
C. G. Jung.

Most of Professor Jung's points seemed to be well taken. However, the writer still did not feel that some of the points were clarified, points over which he had communicated with Dr. Jung initially. His answer to Jung's detailed letter is as follows:

Los Angeles, California
February 3, 1955

Dear Dr. Jung,

Your prompt and detailed reply to my recent inquiry relative to your attitude toward group psychotherapy was greatly appreciated and I shall treat it accordingly. My associate and I believe that your statements were of such importance that we intend to quote your letter in our article to be published soon, provided that you won't object.

Much of your letter's contents was already familiar to me through your books and, therefore, did not come as a surprise; yet you have admirably achieved your purpose to expose the quintessence of today's *societäre Gesellschaft*.

It seems to me immodest to engage in a dispute with a man who can look back 'at 50 years of pioneer labor', as I am considerably younger in years and experience as a therapist than you. However, if I, nevertheless, undertake such a correspondence, I do so only because I was encouraged by your expressions of contempt for *unseren lieben Pöbel*, the great mass; you seem to esteem only nobility of soul and the solitude of the creative mind. I sympathize with you the more because I, too, have often had similar notions about *die Minderwertigen*, the inferior, as you choose to call them. However, in my case I could only say: '*Quod licet Iovi non licet bovi*', for the *Pöbel* did not think, rightly, that I was another 'Jung'. You seem to be an outspoken protagonist of individuality, which, according to Goethe, is *das höchste Gut der Erdenkinder*. Yet although I share your zeal to uphold the dignity and freedom of the individual, I would also venture to cross swords with you on behalf of the 'discriminated' group, of which the individual is an integral part.

Firstly, I wish to emphasize my complete agreement on the Five Points with which you sum up the applicability of group psychotherapy. I even agree where I have some reservations, which are probably due to the fact that some words have different meanings to both of us.

One of these words is your term *Individualanalyse*, probably intended as a contrast to *Gruppenanalyse*. Although there is a faction of psychoanalysts who adhere to the school of thought that the psychoanalysis of groups is possible, I never considered it possible, finding myself, I might say, on the side of the majority of group therapists everywhere. No! I meant to say group *therapy* or psychotherapy, terms which are used synonymously in America, being applied to the patient as an adjunct or substitute for individual psychotherapy. Analysis may often be therapy — though not necessarily so — but, in my opinion, psychotherapy can never be equated with psychoanalysis. To the best of my knowledge, based on the analytical literature of Freud and his pupils, Fenichel, Abraham, Reik, Jones, *et al.*, the *principles* of psychotherapy are alike whether they are applied in individual or in group psychotherapy. You speak of suggestibility as a heightened risk in the group, since 'one is delivered to the influences of the environment'. If I have understood you and Freud correctly, it is the suggestibility of the individual therapist (in contrast to the free association in analysis) which is much greater, more dangerous, and more dependent on the temperament and personality of the therapist than on that

of the group, the therapist's 'influence' on which is virtually modified or even cancelled! Is not the person of the therapist in individual psychotherapy the symbol of the *Umweltseinfluss* for the patient?

If I remember correctly, you once said—I believe in *Spirit and Nature* (3)—that, the more unconscious the human being is, the more he integrates into the circle of the general psychic behavior. But the more conscious he becomes of his self, the stronger is his feeling of the differentiation from others . . . And the more the single consciousness is emancipated from the rules of society, the stronger becomes the empirical freedom of the will in comparison to the growth of a larger consciousness. In this connection I would like to make a point: Those who are not familiar with the methods of group psychotherapy (according to which groups are being used *de facto* to further individuation, to stimulate and to complete it) can easily be mistaken about it. For instance, you state that, by equating the group, a loss of the self will result. This appears to me a generalization. Belonging to a group *per se* does not constitute a regression, i.e. does not require of the individual an involuntary expression of his self, an expression which may derive from archetypal and unconscious rites. On the contrary! Participation in well-prepared groups will lead to a greater understanding of the ego and to a greater toleration of individual differentiations. In the fact that the therapist applies clinically both factors, namely the heightened suggestibility and the group pressure, the group psychotherapeutic methods will become particularly effective, as, above all, in the exploration of the unconscious of every member of the group.

Perhaps you are right when you speak of the instinct of the herd (I think you used the analogy of sheep). Perhaps, too, you made a point in stating that the 'reality consists mostly of nincompoops and moral weaklings' (Schiller said: 'Majority is nonsense; sense is but with a few'). However, it seems to me that we have to live together with these 'nincompoops and moral weaklings' unless those of us who do not qualify as nincompoops can manage to live aside as hermits, in 'splendid isolation'.

With best wishes,
Hans A. Illing.

Replying to the above, Jung wrote:

Dear Dr. Illing,

February 10, 1955

I fully approve of the integration of the individual into society. However, I want to defend the inalienable rights of the individual; for the individual alone is the bearer of life and is, in these times, gravely threatened by degradation. Even in the smallest group, the individual is acceptable only if he appears to be acceptable to the majority. He has to be content with toleration. But mere toleration does not improve the individual; on the contrary, toleration causes a sense of insecurity, by which the lonely individual who has something to champion may be seriously hindered. I am no advocate of solitude; I have to make the greatest effort to shield myself from the demands of people. Without intrinsic value social relations have no importance.

Sincerely,
C. G. Jung.

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BIOGRAPHICAL NOTE

HANS A. ILLING was born in Berlin in 1913, and received his Ph.D. in comparative literature from Berlin University in 1936. Since becoming an American citizen, he has specialized his research and clinical activities in the fields of psychiatric social work and group psychotherapy. He received his M.S.W. from Tulane University School of Social Work in 1948. At present he is a psychiatric social worker in a Community Chest agency in Los Angeles and uses group dynamic methods in the treatment of the agency's patients. He is a member of the American Group Psychotherapy Association and Librarian of the Group Psychotherapy Association of Southern California, of which he is a charter member.

Pressures Toward Uniformity of Performance in Groups¹

JACK BREHM AND LEON FESTINGER

IT has been amply demonstrated that pressures operate to achieve uniformity of opinions in groups. Festinger (3) has recently proposed that some of these pressures arise from a drive to evaluate one's own opinions and abilities. He further postulates that, in the absence of physical reality, a person will ascertain the correctness of an opinion or the quality of a performance by comparing it with the opinions or performances of other people. However, only comparison with opinions or performance levels similar to one's own will allow precise evaluations. Thus, whenever there are differences in opinions or ability levels that are relevant and important in a group, there will be pressures to reduce those differences. Moreover, anyone whose opinion or performance are highly discrepant from those of all other group members will be unable to make a precise self-evaluation.

Three reports of experiments (1, 4, 5) have been designed to test derivations from this theory. Only one of them (5) was designed to demonstrate tendencies to reduce differences in performance levels within a group. In that experiment two subjects and one paid participant made up the experimental group. The situation was manipulated so that, at the start, the paid participant scored far above the two subjects. From that point onwards the two subjects could completely determine how much the paid participant would score. The results of this experiment are consistent with the notion that pressures toward uniformity exist. The subjects do act so as to decrease the discrepancy among them, and the magnitude of this effect is related to variables that are known to affect the magnitude of the pressure toward uniformity. The greater the importance of the ability to the subjects and the more they feel the others are a proper reference group for them, the greater is the movement toward uniformity. These same variables have been found to affect pressure toward uniformity concerning opinions (2, 3).

It should be noted, however, that the experiment briefly described above dealt only with the behavior of subjects who were scoring below others in the group. The theoretical derivation should apply equally to people who score considerably above others in their group. While it is recognized that an asymmetry may be introduced because of the operation of what may be called a drive to do better and better, nevertheless the evidence of pressures toward uniformity should be observable in those who score above others in a group. The present experiment was designed to test this.

1. The experiment reported in this paper was done while both authors were at the University of Minnesota. The experiment was part of the program of research of the Laboratory for Research in Social Relations.

PROCEDURE

The experiment was designed to fit the following specifications:

1. The subjects, assembled in a group, are to be given a task, the performance of which is taken as relevant to an important ability.
2. The performance of each member of the group is to be scored, the scores being made public. The exact score each person receives must, however, be manipulable by the experimenter.
3. The performance and the scoring must be of such a nature that the subjects have (presumably) some control over how well the others in the group score.

The exact procedure employed is described below.

Subjects

Sixty groups, thirty in each of two conditions, were used in the experiment. Each group was composed of five college students who had volunteered in class to participate in some group training-sessions. The training was to be concerned with teaching people how to make accurate judgments about others. Half the groups were made up of male and half of female subjects. Sexes were not mixed in any group. Assignment of subjects to groups was random within the limits of schedule time that the subjects had available. Precautions were taken to make sure that friends were not assigned to the same group.

Sequence of the Experiment

The five subjects in each group were seated at tables arranged in a semicircle. They were introduced to each other by the experimenter, who then reminded them about the purpose of the session, namely, training in how to make accurate judgments of others. The instructions creating one of the two conditions then followed:

1. *High-Importance Condition.* In order to create a situation where the ability in question would have high immediate importance, the subjects in half of the groups were told by the experimenter that before starting the training session he had been asked by the Dean to read them an announcement. This announcement told them that several students from the University were to be selected for an all-expense tour through England that summer. The purpose was to spread goodwill and, consequently, they wanted students who would make good impressions and who were particularly sensitive to other people. Because of the requirement of sensitivity to others it was felt that students who were participating in these training-groups might be particularly qualified. They were then told the time and place to go for an interview if they were interested in trying out for the free trip. In other words, in this condition, the ability in question was made particularly and immediately important for them.
2. *Low-Importance Condition.* In this condition the above instructions were simply not given. Thus, for half of the groups, whatever importance the ability in question had for the subjects was left unchanged.

The experimenter then explained how the training-session was to be conducted.²

2. Actually another manipulation was attempted at this point. Half of the groups were given the impression that they were pretty much the same kinds of people while the other half were told the group was very heterogeneous. The evidence from post-experimental questionnaires was that this manipulation failed to create any differences. Since the results were also indistinguishable, this variable will be ignored in the remainder of the report.

The training was to consist of their getting acquainted, then making judgments of how each other person in the group would act in certain situations, and then discussing these judgments. They were given about twenty-five minutes to get acquainted. A hypothetical situation was then described to them, and they were asked to write down their best judgment of how each other member of the group would act in that situation. A separate sheet of paper was to be used for each judgment about each person. It was explained that these judgments would be collected, sorted out, and then each person would be given those sheets containing the judgments others had made about him.

Each subject then received the four judgments that the others in the group had made about him and was asked to score each one in terms of how accurate it was. They were to give each one a score from 0 to 100, where 0 meant the judgment was completely wrong and 100 meant it was precisely and completely accurate. The experimenter justified this procedure by telling them that previous research had shown that a person could predict very accurately how he himself would behave in these kinds of situation. They were also told that after the judgments had been scored the experimenter would collect them, tally the scores, and then post on the board the total score for how good each person was in making judgments about others. Each posted score would be the sum of the ratings that a person's judgments had been given by the people he made the judgments about. They were to have three hypothetical situations to judge. They would have opportunity to discuss each one after judgments were scored and while the experimenter was tallying and adding the scores to post.

Since we wanted to prevent personal likes and dislikes from affecting the scoring procedure, a semi-anonymous system was used. The subjects were told that for best results from such training nobody should know specifically who had which score or who wrote which judgment. Each person was given a card with a letter on it that he knew but no one else in the group knew. The judgments they made were signed by letter and scores that were posted were also by letter. In this way, each subject knew what his score was in relation to the others but did not know which scores applied to which people. In scoring the judgments others made about him, he knew the scores of the person making the judgment but did not know exactly which person in the group it was.

This procedure was followed for three successive judgments. When each set of judgments had been made and scored, the experimenter, after allowing an appropriate period of time to elapse, put the following prearranged scores on the blackboard:

<i>Judgment</i>	<i>Group Member</i>				
	A	B	C	D	E
<i>First</i>	190	200	295	115	195
<i>Second</i>	185	180	285	100	185
<i>Third</i>	180	190	290	125	185

As may be seen, one person (C) always scored high; one person (D) always scored low; and the three remaining clustered together in between these two.

After the third set of scores had been posted, the experimenter said that for the rest of the session it would be necessary to identify who had which letter. He accordingly wrote each person's name alongside the letter which had, up to then, identified him. He also announced that, before going on, it would be convenient

to make arrangements for the second training-session. The subjects were then asked to fill out a questionnaire, ostensibly to aid in the arrangements for the second session, but actually intended to measure, among other things, attraction to the group, evaluation of how good they were on the ability to judge others, and how confident they were in this evaluation of their own ability. When the last questionnaire had been completed, the real purpose of the experiment was fully explained to them.

Summary of the Design

In each group, on performance reflecting an ability relevant to that group, one person received high scores, one received low scores, and three received medium scores.

Since each subject scored judgments made by others about him, he could attempt to change how well each other person in the group performed. Thus, any tendency to raise or lower the performance scores of others would be measurable.

The scores members received were made public and so, for the second and third judgments, each person knew the previous performance score achieved by each person identified by letter.

By means of verbal instructions the ability was made more immediately important in some groups than in others.

RESULTS

Ratings Given to Others in the Group

Each subject could try to affect the scores of other persons in the group by giving them high or low ratings on the judgments that the others made about him. If pressure toward uniformity exists we should expect that the high scorers would rate other people higher and the low scorers would rate other people lower in an attempt to bring others close to their own level. It would also be expected that the stronger the pressure toward uniformity the more marked this affect would be, and that the pressure toward uniformity would be stronger in the high-importance condition. Table 1 presents the data on the average ratings given to others by the high scorer, medium scorers, and low scorer in the second and third rating-periods for the high-importance and the low-importance conditions. The second ratings were given, of course, after the subjects knew the scores people had made the first time. The third ratings were made after everyone knew the scores each had made the first two times. It is apparent from an examination of the table that pressures toward uniformity are indeed operating. In both high- and low-importance

TABLE 1 AVERAGE SCORES GIVEN BY SUBJECTS IN THE LAST TWO TRIALS

Condition	Trial	Average Ratings given by		
		High Scorer	Medium Scorer	Low Scorer
Low Importance	II	65.9	64.4	62.0
Low Importance	III	68.3	64.5	54.3
High Importance	II	70.2	61.2	58.9
High Importance	III	70.9	64.3	54.2

conditions, on both the second and third ratings, the high scorers give the highest ratings and the low scorers give the lowest ratings. The differences, however, are more marked in the high-importance condition, where we should expect the pressure toward uniformity to be greater. For the second rating the difference between the average ratings given by high and low scorers is significant at the 2 per cent level in the high-importance condition but is not significant at all in the low-importance condition ($t=1.08$). On the third rating the difference between high and low scorers is significant beyond the 1 per cent level for the high-importance condition but only at the 5 per cent level for the low-importance condition. However, the difference between these differences in the high- and low-importance conditions does not reach significance either for the second or for the third ratings.

We may then conclude that pressure toward uniformity does indeed act on the members of a group in this kind of situation, and there is some suggestion that the magnitude of this pressure toward uniformity does increase as the importance of the ability to the person increases.

Judgments of own Ability

At the conclusion of the experiment, the subjects were asked to make evaluations of their ability to make judgments about others, the ability they were practising during the experiment. They were asked to check one of five points ranging from 'Extremely good at judging others accurately' to 'Very poor at judging others accurately'. They were also asked to make a judgment of how certain they were of this estimate of their own ability. Here again they were asked to check one of five points ranging from 'I really am completely uncertain. I just made a guess' to 'I am quite certain about the estimate that I made'. Table 2 presents the average judgments in each condition of importance for the high scorers, medium scorers and low scorers on these two questions.

TABLE 2 AVERAGE JUDGMENTS OF OWN ABILITY AND DEGREE OF CERTAINTY IN THESE JUDGMENTS

Condition	Question	Ratings by		
		High Scorers	Medium Scorers	Low Scorers
Low Importance	Ability*	2.26	2.77	3.70
High Importance	Ability*	2.46	2.72	3.53
Low Importance	Certainty**	3.43	3.02	3.05
High Importance	Certainty**	3.07	3.20	3.13

* 1 = extremely good; 5 = very poor.
 ** 1 = completely uncertain; 5 = quite certain.

From the theoretical considerations stated by Festinger (3), we would expect that those members of the group who were scoring far above or far below the others in the group would not be able to evaluate their own ability as precisely as those who were scoring near others. In other words, the high scorer or the low scorer, receiving scores quite far removed from those of anyone else in the groups, would not know precisely how good he was. We should expect this to affect the high scorer more than the low scorer because of the orientation to do better, so that the low scorer would still be comparing himself somewhat with the mediums while the high scorer would really have no one with whom to compare himself.

The stronger the pressure toward uniformity the greater would this effect be. That is, with respect to a relatively low pressure toward uniformity the differences in scores that exist would not seem so important or loom as large. With respect to a strong pressure toward uniformity the differences that exist, say, between the high scorer and the others would loom as very important and would make the high scorer unable to get a precise judgment of how good his ability was. Let us examine the data in *Table 2* from the point of view of these expectations.

It is clear that for both the low-importance and the high-importance conditions, the high scorers judge themselves as better than medium scorers and the medium scorers judge themselves as better than the low scorers. These differences are statistically significant beyond the 5 per cent level of confidence in each of the two conditions. The expectation that the high and low scorers would be less able to get a precise evaluation in the high- than in the low-importance condition is supported only by a non-significant trend in the data. Both judge themselves as nearer 'average' in the high- than in the low-importance condition.

The ratings of 'certainty' give clearer support for our expectations. In the low-importance condition, the high scorers are more certain of their ratings than are the medium scorers. In the high-importance condition, the high scorers actually have less average certainty than have the medium scorers. This difference between the low- and high-importance conditions is significant at the 5 per cent level of confidence. At the same time there is no significant difference between conditions in how certain low scorers are of their judgments. But it is also clear that with respect to the person scoring far above the others, the stronger the pressure toward uniformity, the less adequately is he able to obtain a confident judgment about how good he is on the ability in question.

SUMMARY

We have described an experiment in which, for groups of five subjects, performance reflecting the ability to make accurate judgments of others was experimentally controlled so that in each group one person scored high above all the others, another person scored very much below all the others, while the remaining three clustered closely in the middle.

It was demonstrated that increasing the importance of the ability for immediate behavior increased the pressure toward uniformity concerning this ability within the group. This increase in pressure toward uniformity was manifested in:

1. The tendency to affect the scores of other persons so as to bring their performance closer to one's own.
2. The lower confidence of high scorers in the high-importance than in the low-importance condition in judging how good one's performance is.

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BIOGRAPHICAL NOTES

JACK W. BREHM received his A.B. from Harvard College in 1952 and his Ph.D. in psychology from the University of Minnesota in 1955. He is now conducting research in the Psychology Department, Yale University.

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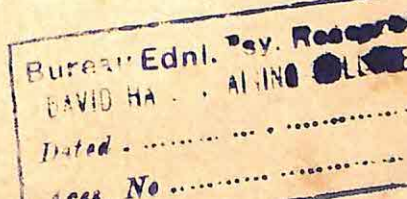
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Foreman, Job, and Company

ARTHUR N. TURNER

WHAT determines workers' attitudes toward the foreman, toward the 'immediate job', and toward the Company as a whole? How are these three areas of attitude interrelated? An intensive interview study¹ of a stratified sample of 202 longer-service automobile assembly-line workers yielded information on these questions which are important to students of human relations in other kinds of organizations, whether the attitudes themselves resemble those reported here or not.

A worker's total attitude toward his job experience is the product of many component attitudes besides the three here selected for emphasis, and the relationships between these separate attitudes are likely to be complex and confusing. In the first study of this series (10), it was found that the dissatisfaction of many workers with their immediate jobs and with the 'impersonality' of assembly-line work was often counteracted by more favorable opinions of such factors as supervision, union, pay, and security of employment. The men interviewed in the first study were relatively new to assembly-line work. For this reason the second study, reported here, was conducted in an older plant, and the interview sample was purposely confined to men with 12 to 15 years' seniority. Among these older men attitudes toward the immediate job were equally negative, there was more bitterness about 'impersonal treatment' by the company in general, and significantly less satisfaction with supervision. The union, pay, and security were less important as positive considerations to most workers in the second study.

Consequently, in this plant the three attitude areas—job, boss, and company treatment—emerged as much the most significant to the older production workers interviewed. This paper deals with reasons for these attitudes, and especially with relations between them. It is believed that the findings lead to significant implications regarding this and other organizations.

I. THE FOREMAN

Half way through the interview, each worker was asked the following question: 'How well does the foreman where you work get along with the men?' (In spite of this general wording most men described how they personally liked or disliked their foreman.) Forty-four per cent of the sample were coded as saying that their foreman got along 'very well or fairly well' with the men, 14 per cent gave 'neutral or mixed' answers, 36 per cent were coded 'not so well or very poorly', and 5 per cent gave no clear answer to the question.

1. The study reported here is part of a continuing program of research by the Technology Project, Yale University, directed by Charles R. Walker. At various stages the author was assisted by his colleagues on the Project, and also by some suggestions of Father T. V. Purcell. Cooperation of management and workers, and skillful interviewing by staff members of the Institute of Management and Labor Relations, Rutgers University, made the study possible.

As a matter of fact the interviews when taken as a whole give an impression of a more unhealthy foreman-worker relationship than might be suggested by these figures. Many workers showed understanding and sympathy for the foreman's problems; they blamed the foreman's boss or the 'pressure' of the mass-production environment for the fact that foremen did not get along better with the men. As one worker said, 'The average guy knows it's not the foreman's fault.' Nevertheless, for many workers supervision was one of the most important sources of frustration and unhappiness on the job. For *some* of the men interviewed, feelings toward supervision had reached a stage bordering on obsessive hatred.

The nature and importance of workers' attitudes toward the foreman are best illustrated by actual comments taken from the interviews.

The foreman gets along 'very well' or 'fairly well'. 'The foreman is a pretty good egg. He stood up for me yesterday when the general foreman tried to have the foreman send me home . . . He's a pretty good skate. He saved my neck. He's studying law at night.' Again, 'The foreman gets along okay with the men. They only get to talk with him when he comes in in the morning, and if trouble starts. He's okay.'

The foreman gets along 'not so well' or 'very poorly'. 'He don't get along with anybody on the line that I know of. It isn't that he's a bad guy. He's just too nervous. He don't know what it's all about.' Again, 'He's a — son of a bitch, a brown noser and a freak. He always carries eggs in to the bosses . . . They got a new foreman there who's okay with the men; he talks to them and when they have a gripe he listens to it, and then takes it up to the big bosses without sneaking around. . . . He's always cheerful and he don't act like he's Jesus Christ Almighty; the boys like him and they'll work for him. But *my* foreman is a lousy rat.'

Throughout this wide range of attitude toward foremen, a majority of the men interviewed gave clear evidence of the importance of the foreman-worker relationship. For example:

'It makes all the difference in the world. If you have a good foreman, you're going to do everything in your power to do your job before you let it go down the line. Otherwise, you could let a lot of the stuff go down.' Again, 'That place would be a different place to work if the foremen were half decent. He could make the job a lot less tense and everybody would feel better. It's no fun working on the production line, and it's even worse if you have a bastard foreman on your neck all day.' And, 'My old foreman gets along good with the men. He doesn't try to get any more than the schedule out of you. This new punk is having trouble because he's too bossy, always on your neck. . . . Sure (the foreman makes a difference). I'll give him more than the schedule in a pinch, and I'll always give him his schedule if he treats me right.'

The importance to most workers of relations with foremen was also indicated in a ranking of 'likes and dislikes' as expressed in the interviews as a whole. Supervision was very rarely listed as an important reason for *liking* the job. However, in frequency of mention as the most important dislike, supervision was exceeded only by factors connected with the 'immediate work environment' (mostly the moving line) and 'general work environment' (i.e. general treatment by the company, working conditions, and hours of work).

II. THE JOB

In *The Man on the Assembly Line* the following 'mass production characteristics of the immediate job' in an automobile assembly plant were described (10, pp. 9-14):

1. Mechanical pacing of work
2. Repetitiveness
3. Minimum skill requirement
4. Predetermination in the use of tools and techniques
5. Minute subdivision of product worked on
6. Surface mental attention.

In the second study also, the more strongly these characteristics were present in an individual worker's job, the more strongly he was apt to dislike the work he was doing, whereas those workers who expressed satisfaction in their work were usually those on jobs with few, if any, of these characteristics. By far the most important of these characteristics to most workers in the present study was mechanical pacing. The most significant difference between jobs to most men was whether they were on or off the moving line. When asked for their preference, 8 per cent of the sample said they preferred to work on the main line or on a mechanically paced sub-assembly line, whereas 72 per cent expressed a clear preference for off-line work. (The others expressed no clear preference.)

What workers most disliked about working on a moving conveyor, and especially on the *main* line, was that it was impossible to vary your pace, to 'work ahead' in order to take a minute off now and then. When asked how often they could 'knock off the job for a breather' (not counting the regular relief or coffee gap), 52 per cent of the total sample said they could not take a breather at all, and almost all of these men were regular operators on the moving line.

The second most important reason for dissatisfaction with the immediate job was repetitiveness. A majority of those interviewed felt that their jobs were repetitive. Over 75 per cent said they disliked having to repeat the same thing on their jobs.

As one of them put it, 'I object to doing the same thing every day. I don't like it. After a while you become like one of the tools down there. You cease to function mentally. If you've got a specific job on a fender, you do it mechanically. After a while you get like a robot.'

Not all jobs on an assembly line are repetitive. Most 'utility', relief, and repair operators have to perform a number of different jobs calling for variety of skill and motion, which is the main reason why many workers prefer these jobs. Several volunteered the suggestion that a more widespread system of job rotation should be adopted.

Although most workers said or clearly implied that they wanted to perform their jobs well, only 22 per cent said that they were able regularly to do good-quality work. The main reason given for not doing better-quality work was that the moving line did not allow enough time 'to do the job right'. (Actually, the company was assembling an excellent product, but the point is that most workers did not *feel* they were doing good work consistently; and they indicated that this feeling of not being able to do the job as well as it ought to be done increased their dissatisfaction with their jobs.)

Finally, as an overall appraisal of attitudes toward the immediate job, interviews obtained from each worker an idea of how 'interesting' he found his job. The results were:

very interesting	10%
fairly interesting	40%
not too interesting	22%
not at all interesting	28%

It is important to remember that what is 'interesting' to one worker may not be interesting to others. Of the twenty-one men who described their job as 'very interesting', ten were repair or utility men or had other special jobs involving an unusual amount of variety and freedom from the pacing of the line. (Twenty-seven per cent of the total sample had such jobs.) So there were eleven who were 'very interested' in ordinary assembly jobs. Some of those men meant simply that the job was 'easy' or they knew how to do it well. Others had special reasons for feeling that their own job had more 'interest' than most of the others, as in this explanation by a main-line worker who installs front seats: 'The job is very interesting. [Why] is hard to say. The job we do we feel it's more important than the job the next man is doing. We feel we have more responsibility than the next man. That's the main item in the looks of a car. It would be awful funny without front seats in a car.'

Thus the response that a job was 'interesting' might indicate either that it was in fact a non-repetitive or unusually challenging job, or it might mean that for some other reason a man found satisfaction in his work. In the same way workers who said their job was not interesting might mean that their job was highly repetitive or they might be expressing dissatisfaction in their work which had nothing to do with its repetitiveness or monotony.

Whatever the word 'interesting' may mean to the average worker, there were clearly considerable numbers of workers at each end of a wide range of attitude toward the job, with a sizeable minority (28 per cent) feeling that their job was not interesting at all. Furthermore, responses to this general question, when cross-tabulated with other questions, showed that there was a significant tendency for workers who rated their jobs as 'not interesting' to express dissatisfaction about a number of other aspects of their work experience.

III. THE COMPANY

Most workers felt they were treated badly by the company. In particular there was a widespread but not clearly defined feeling that the treatment of the men by the company as a whole was impersonal. In most cases attitudes toward the company were determined by all aspects of the total work experience, including supervision and the immediate job and also such factors as security, regularity of employment, treatment when sick, working conditions, and many others. In order to get a measure of this overall attitude toward the company as a place to work, we asked the following question:

Do you think the company:

Does all it can for the men?

Does something but not all it could do?

Doesn't do much of anything?

When a worker did not answer this question specifically in any of the three ways indicated, it was usually possible to place his response into one of three broadly equivalent groups: generally favorable, mixed and neutral, or generally unfavorable. The results were as follows:

	Percentage of Sample
The company does all it can (generally favorable)	6
The company does something (mixed and neutral)	35
The company doesn't do much of anything (generally unfavorable)	52
Indeterminate or no answer	7
	100

Those men with favorable or mixed attitudes often implied that there was a *general* feeling of antagonism and distrust toward the company, and that their own opinion that the company *was* interested in the men's welfare was not widely shared. 'They do all they can. The men gripe a lot, but it ain't the USO.' 'The company maintains production first. But I'm treated all right. I get almost everything I ask for in time.'

In contrast to the general nature of most of these 'favorable' comments, the majority which was clearly unfavorable often contained one or several specific gripes or reasons why the worker felt that the company showed little or no consideration for him as an individual. Here is a typical example: 'If you don't feel well on the job, you should be able to go to the hospital. They're always cutting any expense item to the bone. It's terrible in that place. A pair of gloves on raw metal you've got to have. But I've got to go around and try to pick up a pair of second-hand gloves . . . It seems that every year they expect more and more out of you instead of less. You can't take time out for a cup of coffee or smoke a cigarette. You have to take relief when they give it to you. You've got to rush in, rush out. You can't live a normal life. I'll bet if they checked every foreman for his health, they'd find he had ulcers. The work outside is at a slower pace.'

In addition to this question on what the company did for the men, workers were asked whether they would stay or leave if they had a chance to take a job in another plant. Forty-five per cent indicated that they were more likely to leave than not, while another 5 per cent implied that it was highly probable that they would leave (4).

Another indication of general attitude toward the company was provided by responses to a question on what workers' wives thought about their husbands' jobs. The wives of seventy-three workers, present during the interview, answered this question themselves. Forty-six of them indicated a generally unfavorable reaction; only seven, a favorable one. In addition, of 126 workers who described their wives' attitudes, sixty-one reported unfavorable reactions, and only sixteen favorable.

Having looked separately at the attitudes expressed by workers toward the foreman, the immediate job, and the company, it is time to consider the relations between these areas. Three paired relationships are involved: the foreman and the company, the job and the company, and the foreman and the job.

IV. THE FOREMAN AND THE COMPANY

When attitudes toward supervision were compared with attitudes toward the company, a significant association was found. For instance, workers who had the most negative attitudes toward their foreman were likely to say that they would leave the company if they had an opportunity. The probability was less than .02 that the degree of association found would occur by chance, according to the Chi-Square test. There was a similar lack of independence ($p < .01$) between what workers said about their foreman and how they answered the question, 'What does your wife think about your job?'

An even stronger association was indicated between responses on how foremen got along and answers to the question, 'Do you think that the company does all it can for the men . . . ?' In *Table 1* the twelve men who said the company did 'all it can' are combined with those who said it did 'something but not all it could do', and these responses are cross-tabulated with responses to the question on the foreman. The probability of this degree of association occurring by chance is less than .001.

TABLE 1 ATTITUDES TOWARD THE COMPANY AND
 ATTITUDES TOWARD FOREMEN
 (Plant Y Production Workers*)

<i>Foreman gets along</i>	<i>Company Does</i>		
	<i>All it can and something</i>	<i>Not much</i>	<i>Total</i>
<i>Very well or fairly well</i>	46	37	83
<i>Neutral or mixed</i>	18	8	26
<i>Not so well or very poorly</i>	14	54	68
<i>Total</i>	78	99	177

$$\chi^2 = 26.85; df = 2; P < .001$$

* 177 of the total sample of 202 gave determinate answers to both questions.

Of the possible explanations for this close connection between attitudes toward foreman and company, the simplest is that it is through the foreman that the company's policies are transmitted. For many workers the foreman is the company. (The degree of association in workers' minds between foreman and the company will vary from plant to plant. For example, Purcell found 'no significant association' between 'attitude-to-the-foreman' and 'attitude-to-the-company' in the Chicago plant of Swift and Company (5, p. 123).) When the foreman refuses to listen to a worker, to understand his point of view, to help him out, the company is refusing to do those things, as far as the typical worker is concerned. However, this identification is not always present. Some workers, when discussing conditions they disliked, said that this was the fault of supervision, not of the company or higher management: 'As far as the company is concerned, I don't blame the company itself, I blame the supervision. The big bosses don't know what the foremen are doing downstairs.' Again, 'I think the company means well, but some of the

supervision tries to cut to the bone. I don't think the company wants it that way.' And, 'The company isn't too bad—it's just some individual foremen.'

Other workers claimed, 'It's not the foreman's fault, it's the company that makes things this way.' In fact many workers who said their foreman did not get along, excused or explained his behavior as being caused by the way the foreman was treated by upper management. In other words, workers could think of the foreman and of the company as opposed to each other and yet have equally unfavorable attitudes toward both company and foreman. What these workers were objecting to was not the foreman as an individual, but his inability under the circumstances to 'get along well' with the men. In fact the connection in many workers' minds between the foreman's behavior and the 'pressure' he was under from 'the company' was one of the most important reasons why attitudes toward supervision were so closely associated with attitudes toward the company as a whole. 'There's pressure from above and pressure from below. How can a man get along with management and get along with the men, too?' Again, 'The trouble is no foreman has the time to talk with the men to find out how things are going . . . I sometimes feel sorry for them. It's a rough deal when too many men are out. They have their orders. They have to get production out.' And, 'It isn't his personality or anything, but it is the pressure the foremen are under as far as production goes, and they put the pressure on the men. It doesn't make for friendship because there's always aggravation. The biggest thing is production. It seems to me the man doesn't count and that's when you start running into trouble . . . That's where the men start to dislike their foremen. Personally the guy may be okay.'

Implicit in some of these comments is a recognition of the worker's own role in determining the nature of the foreman-worker relationship. Several workers recognized that the men's own attitudes, conditioned by the general working environment (for which 'the company' was to blame), made it difficult for a foreman to establish good relations. Here was another connection between workers' views of their treatment by the company and of the foreman's ability to get along with the men.

'The foremen have troubles of their own. They get pushed around, too. We had a guy with 28 years' service [a foreman] who quit one day, and he was crying—that's how rough it is . . . [My foreman] doesn't get along too good. He can't—the men don't realize his problems. Some guys think he's a bastard.'

'It does make a difference if your foreman is half good. But you can't be a real good Joe to be a foreman here. If you get too good, the guys will crap all over you. If you get to be so you carry out orders, the guys will curse you. I believe it's mostly the fault of the attitude of the company that makes a man so hostile toward the foreman.'

It would be interesting to know exactly what was meant by this last statement. Apparently this worker felt, as others did, that because the men felt they were being treated 'impersonally' by the company, they had attitudes toward their jobs and toward the foreman, as management's representative, which made it impossible for the foreman to 'get along well' with the men.

This connection between attitudes toward supervision and toward the company was also present when these attitudes were positive. As shown in *Table 1*, there

were forty-six workers who thought that the foreman got along well and that the company did all it could or at least 'something' for the men. It is not surprising that when a foreman acts in ways that makes him liked and respected by his men, he thereby helps them to have more favorable attitudes toward the company as a whole. None of the twelve workers who thought the company 'did all it could' said their foremen did not get along with the men. The general impression from all twelve of these men was of a healthy and constructive foreman-worker relationship.

V. THE JOB AND THE COMPANY

Workers were coded as to 'type of job', or more specifically as to whether they worked on or off the main line and whether they had regular assembly jobs or did work with greater variety such as utility and repair. There was a tendency for workers on the most paced and repetitive jobs to dislike the company and to say they would leave, but this tendency was not statistically significant.

More significant than an outsider's determination of whether a job is repetitive or mechanically paced is the worker's own opinion as to the amount of repetitiveness or pacing in his job. Thus, those men who were more conscious of repeating the same motions and being tied to the pacing of the line tended to say the company did little for the men.

When workers were asked whether they thought they could 'do good-quality work on their jobs', there was an even stronger association with attitudes toward the company, as shown in *Table 2*. Both halves of the table tell the same story: workers who say they can't do quality usually have unfavorable attitudes toward the company as a place of work. Is this because a felt inability to do good work embitters a worker against the company? Or is it because a worker who dislikes the company (for other reasons) is likely to express this feeling in the interview by asserting that it is impossible to do good work? Undoubtedly it works both ways. In any case here is impressive evidence of the important connection between attitudes toward the company and the job.

TABLE 2
ATTITUDES TOWARD COMPANY AND QUALITY
(Plant Y Production Workers)

<i>Can Get Quality</i>	<i>Probably Would</i>			<i>Company Does</i>		
	<i>Not Leave</i>	<i>Leave</i>	<i>Total</i>	<i>All it can and something</i>	<i>Not much</i>	<i>Total</i>
<i>Yes</i>	28	14	42	20	19	39
<i>Sometimes</i>	39	38	77	43	34	77
<i>No</i>	18	45	63	16	46	62
<i>Total</i>	85	97	182	79	99	178
	$\chi^2=15.54; df=2; P<.001$			$\chi^2=13.47; df=2; P<.01$		

The same connection was demonstrated in the case of responses to the question on how 'interesting' the job was felt to be. As *Table 3* shows, a majority of those

who thought the job was interesting said they would not leave and that the company did all it could or something for the men; whereas a majority whose job was not interesting to them said they would leave and that the company did 'not much of anything'. The same significant lack of independence ($p < .001$) appeared when

TABLE 3
ATTITUDES TOWARD COMPANY AND JOB INTEREST
(Plant Y Production Workers)

Job is	Probably Would			Company Does		
	Not Leave	Leave	Total	All it can and something	Not Much	Total
<i>Very interesting and fairly interesting</i>	57	39	96	50	44	94
<i>Not interesting and not at all interesting</i>	35	62	97	33	60	93
<i>Total</i>	92	102	193	83	104	187
	$\chi^2=10.43$; $df=1$; $P<.001$			$\chi^2=5.97$; $df=1$; $P<.01$		

the amount of interest in the job was compared with what workers said about their wives' opinions. For instance, of the sixty-one men who attributed unfavorable attitudes about their jobs to their wives, forty-one said their jobs were not interesting. To illustrate the importance and nature of this association between job and company attitudes, here are some comments made in talking about the company by men whose overall attitude was strongly influenced by their feeling about their immediate jobs.

'The company does nothing to convenience the men . . . They could slow that line up a lot. The job is worked by seconds. I don't like that—you're being timed. The more work you do, the more work is piled on you. You try to do your best and yet they pile it on . . .' (Earlier in the interview, to the question on repetitiveness, this man said: 'That's what's giving me my duodenal ulcer—it's the same thing over and over.')

'The company does something at times, but you have to keep after them or they forget about you . . . One thing, they never do anything about improving the lines. It would be a little easier if they had more men on the line.'

'They do something but they don't do everything. A lot of things should be done in that plant, but it isn't done. I mean the working conditions, the way they work them. They speed up the line, they give you a couple of jobs to do and you've got to do it.'

There were a number of similar answers to the question on what the company did for the men. Clearly there were a considerable number of workers who were preoccupied with aspects of the immediate job that they disliked, and this preoccupation meant that as far as these men were concerned the company was not as interested in them as it should have been.

The association between attitudes toward job and company worked positively

as well as negatively. Of the twelve men who thought the company did all it could for the men, five had unusually non-repetitive jobs (repair, utility, etc.). Only two were 'regular' assembly operators on the main line. Furthermore, nine of the twelve thought their jobs were interesting. Thus, while there were a few exceptions, the general impression given by these twelve men with unusually favorable attitudes toward the company was of unusual satisfaction with the work they were doing, as the following sample of their comments suggests.

'Fairly interesting. It is more interesting than any of the jobs on the line.'

'It's an important job. It's interesting because of its importance to the company.'

'It was interesting. In the first place not everyone knows the names and colors of all the paints . . . wasn't everyone could do it.'

Thus, just as a worker's opinion of his foreman had a lot to do with how he felt about the company, so did his opinion of his immediate job. Both of these associations were indicated not only statistically in our cross-tabulations, but qualitatively in workers' own comments. And both of them held as true for workers who were satisfied as for those who were dissatisfied with their total work experience.

VI. THE FOREMAN AND THE JOB

Was there the same kind of association between attitudes toward the job and toward supervision which we found between each of these areas and attitudes toward the company? It might be expected that for some workers dislike of the immediate job would be so strong that it would be reflected also in negative attitudes toward foremen; or the reverse might be true, attitudes toward supervision might color workers' opinions of their immediate jobs. Such associations did appear in individual interviews, but for the sample as a whole it was found that the types of jobs workers had and whether they liked their jobs or not made *no statistically significant difference* in what they said about their foremen. What tendencies there were for attitudes toward supervision and the job to be associated with each other were minor and might in fact have been caused by chance.

For example, workers with jobs on the moving line were divided in their attitudes toward foremen in exactly the same proportion as were off-line workers. Furthermore, workers with the least repetitive jobs, such as repair and utility men, were, if anything, more likely than other operators to say that the foreman did *not* get along with the men. (This tendency also was not significant statistically.)

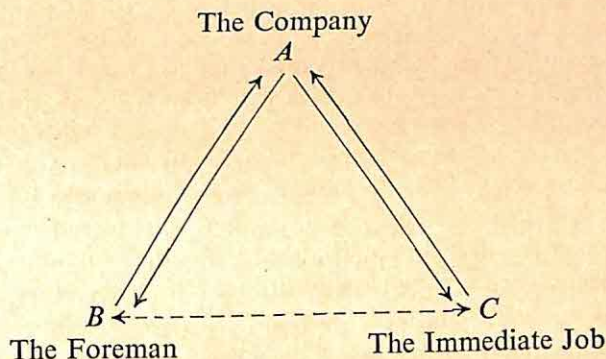
The lack of association between the nature of the job and attitudes toward supervision might be expected, since after all what is important in influencing a worker's attitude is not what job he has so much as how he feels about it. However, the same lack of *significant* association was found when attitudes toward supervision were correlated with the question on how interesting the job was to the worker. It is true that more men with favorable attitudes toward their foremen called their jobs interesting than not, whereas more men with unfavorable attitudes toward their foremen called their jobs not interesting. But these differences from the 'expected' distribution were so small that according to the Chi-Square test they could have occurred by chance ($p > .10$).

There did seem to be some relationship between how the foreman got along and what workers said about quality. Even here, however, the association might have occurred by chance ($p > .05$).

In other words, and contrary to what might have been expected, attitudes toward the job and toward the foreman were independent, according to the Chi-Square test. This means that negative attitudes toward the job or the foreman *cannot* be explained simply by saying, 'Some workers gripe about everything.' Those who complained about their foremen did *not* necessarily complain about their jobs, and vice versa. Apparently, if the job was of primary importance, then the foremen made relatively little difference. If the foremen made an unusually strong impression, either positive or negative, this did not necessarily influence a worker's attitude toward his job. It was as if the nature of the job and the nature of supervision, as perceived by workers, were by and large *separate* influences upon workers' overall attitudes.

VII. CONCLUSION

This paper has been concerned with relationships between three areas covered by an interview study of long-service automobile assembly workers: A. general attitudes toward the company as a whole, B. attitudes toward the foreman, and C. the immediate job.



We found a significant relationship between areas A and C on the above diagram, and between A and B, but little association between B and C. Apparently, this indicates that *both* supervision and the immediate job influence attitudes toward the company and, furthermore, that these two influences or overall attitudes are in a sense independent of each other. There were significant numbers of workers in two groups, apparently: those whose feeling about the company was bound up with their relationship with their foreman ($A \longleftrightarrow B$), and those whose feeling about the company was bound up with their relationship to the immediate job ($A \longleftrightarrow C$), and these two groups did *not* overlap to any significant degree.

There is nothing surprising about the close association found between attitudes toward supervision and the company. The foreman's influence upon worker morale has been demonstrated repeatedly in a wide variety of industrial settings

(6, for example). Because of the much greater frequency with which workers interact with foremen than with any other member of management it is easy to see why the foreman in effect *is* the company as far as the average worker is concerned. (However, as noted above, Purcell's study (5) contradicts this finding.)

As for the association between attitudes toward the company and the immediate job, this, too, could be expected on the basis of previous research. While the character of the work itself has received less research attention than supervision as an important influence upon total attitudes, this area has been studied in this country and abroad ever since the early work of Elton Mayo and the British Industrial Health Research Board (7, pp. 28-54; 12). The present series of studies of the impact of technology upon human relations in industry has emphasized the immediate job and has shown that pacing and repetitiveness in particular can lead to considerable job dissatisfaction (10, 11). Recently other research workers in this country and abroad have been giving increasing attention to this area, from different points of view, but all reaching the same general conclusions concerning the necessity of studying reactions to the immediate job as one of the most important variables influencing morale (1, 2, 3, 8).

What about our third major finding: namely, the relative independence between attitudes toward supervision and toward the job? Was it to be expected that workers' attitudes toward their foremen should have no significant influence upon their attitudes toward their immediate jobs, and vice versa? It is suggested that this finding may not apply generally. It may well be a special circumstance, peculiar to automobile assembly line and similar mass-production work. In many industries the foreman determines for his men what the nature of their immediate job will be. The foreman makes assignments from one job to another, provides or fails to provide variety at work, and controls or varies the pace of working. Where this is true, close association between attitudes toward the job and toward the foreman would be expected.

However, on the assembly line the foreman's role is different (9). He has little opportunity to give a worker a different or easier or more interesting job, since most of the jobs are the same. The amount of work to be performed by each operator is largely determined not by the foreman, but by the 'work standards department'. The pace of working cannot be varied by the foreman, since it is regulated by the speed of the moving line over which the foreman has no direct control. Consequently, most assembly workers do not perceive the foreman as *primarily responsible for the liked or disliked characteristics of their immediate jobs. It is possible to have a good job and a disliked foreman, or a good foreman and a hated job. The foreman does not necessarily get blamed because the job is disliked—he is part of the system, and 'it's not the foreman's fault'.* Nor does he necessarily get the credit when the job is liked. Workers with the most favorable opinions of supervision often described steps taken by their foreman to *try to counteract* the pressures and irritations of the job, but there was little any foreman could do to alter the basic characteristics of the work.

The findings of this study suggest that because an assembly-line foreman exercises little control over the nature of the workers' immediate job, the workers' attitudes toward the job and the foreman are independent of each other. At the same time these assembly workers' total attitudes toward the company were usually related to how they felt either about the foreman or about the job. This implies that improvements in attitudes either toward supervision or toward the

job will improve overall attitudes to some extent, but that neither area of possible change *by itself* will be fully effective in improving overall attitudes toward the company. Management can improve worker morale by making it easier for foremen to establish constructive and satisfying relations with their men. This can be done through seeing to it that foremen are treated with understanding by their superiors, since foremen's behavior toward their men depends in such large part upon upper management's behavior toward foremen (9, 13). Management can also improve worker morale by consciously counteracting the impersonality of mass-production technology and by introducing more variety and individual responsibility in the work through such measures as job enlargement and job rotation (10, 11). If the foremen are made the agents by which such changes in the immediate job are accomplished, attitudes toward supervision will improve at the same time, because then workers will begin to perceive the foremen as responsible for the desired changes in the nature of the job itself. The significance of this study is that improvements in supervision *and* in the immediate job are called for. Improvements in either area by itself are not likely to be effective.

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BIOGRAPHICAL NOTE

ARTHUR N. TURNER did graduate work and research at the Harvard Business School, receiving his M.B.A. in 1950. He has served since 1951 as Research Assistant on the Technology Project at Yale University where he has been primarily interested in the effects of mass-production technology upon human relations in industry. Several articles and a book, *The Foreman on the Assembly Line*, have resulted from this work. During 1956-7 he took a leave of absence from Yale to accept a Ford Foundation predoctoral fellowship in business administration at the New York State School of Industrial and Labor Relations, Cornell University.

Natural Disaster and Political Crisis in a Polynesian Society

An Exploration of Operational Research

II

JAMES SPILLIUS

SOME PRINCIPLES OF OPERATIONAL RESEARCH

THE description of events on Tikopia in Part I of this paper showed how two anthropologists departed from the conventional role of the academic anthropologist in a crisis situation. In recent years there has been much discussion of what the role of the anthropologist is and should be.¹ Departures from 'pure' anthropology are variously described as applied anthropology, action anthropology, technical advising, participant intervention, and operational research. Although there is little agreement on what each of these terms means, there are several issues that keep recurring in the discussion of them. Should anthropologists confine themselves to 'pure' research? Why do administrators make so little use of anthropological writings? Is it possible to do research that is simultaneously of theoretical and practical importance? Can social change be studied in process, and should anthropologists try to affect the course of such change? Many questions concern ethics and values, among them: can anthropologists, as scientists, take a moral stand on anything connected with their work? Is it morally right to supply administrators with information that they may use in a way the anthropologist disapproves of? Should anthropologists take issue with government policy or accept it as given? What are the anthropologist's responsibilities to the people he studies and works with? It is not my purpose in this paper to answer each of these questions specifically, but I hope to give some partial answers by drawing out the broader implications of my experiences on Tikopia in what I have chosen to call operational research.²

Operational research is here defined as the attempt to produce an effect on processes of social change while they are being studied.³

Throughout this paper I have tended to discuss the social anthropologist in

1. Much of this discussion is contained in *Human Organization*, the journal of the Society for Applied Anthropology. See especially editorials in Vol. 9, No. 3; Vol. 10, No. 2; Vol. 11, No. 2; Vol. 13, No. 1; and Vol. 14, No. 2. For a recent definitive paper representing the views of many British social anthropologists on the relation between anthropological research and social needs, see L. P. Mair (12).

2. A discussion of anthropologists' views on these issues, particularly on the relation of Government and anthropologist (omitted here for reasons of space), will appear at a later date.

3. This definition is very close to Holmberg's definition of 'participant intervention'. 'His (the participant observer's) job is to assist the community to develop itself and to study the process while it is taking place.' (Holmberg, 8, p. 26.)

operational research in terms of a role. But the fact that the situation is a changing one means that operational research itself is a process and cannot be rigidly defined as a set of role prescriptions. Actions that may be appropriate at one phase, such as my assuming command on the day of the 'evil *fono*', described in Part I, may be inappropriate at a later phase of the process. The precise techniques the operational research worker uses depend on the problem he must deal with and on the developing situation he is part of. But it is possible to state in general terms some of the principles of operational research that emerged on Tikopia and that might be useful in other field situations.

1. *The unit of study in operational research is Government and indigenous community*, and especially those members of each group who interact with one another.

In social anthropology Schapera (16) and Fortes (5) clearly express the importance of treating European and native groups as one community when studying a process of culture change or contact. Gluckman further underlines and gives vivid illustration to this point (7). Although the theoretical importance of treating European and indigenous community as one social system has long been recognized, it is not always put to practical use in applied anthropology. Colonial situations are usually analysed either as the administration of an indigenous community, or as the indigenous community's reaction to colonial administration; the assumption is that there are two distinct social systems instead of one, and the essential process, the *interaction* of colonial administration and indigenous community is not fully analysed.

In a colonial situation there are several specific relationships such as those between master and servant, bishop and local priest, plantation manager and labourers, Government and chief or headman, doctor and medical assistant, trader and customer, and so on. It is with such specific contexts of interaction that the operational research worker must deal. Schapera, in particular, stresses that certain offices like District Commissioner and Bishop are of such a nature that the indigenous group cannot avoid taking them seriously in the conduct of their affairs (Schapera, 16). In most places these offices are occupied at the moment by Europeans. But it is not inconceivable that they will be occupied by members of the indigenous people, as has indeed happened in several territories.

In Tikopia the problem was primarily to improve communication between the Government officers and chiefs, overseas labourers, and the Mission, and between chiefs and labour recruiters. These were the relationships that needed to be clarified and for which a *modus operandi* had to be agreed on. I did not try to study the Government hierarchy in itself, nor did I try to improve communication between its various levels. My isolation prevented this, and in any case Government felt no need for such study. With regard to the Tikopia, I did not succeed in improving communication between the factions or in helping them resolve their own conflicts—nor did I even try to do so. This does not mean that operational research cannot be carried out within a community that is part of a larger society. In fact it was begun in the study of the operations of such a community, the R.A.F. (Dobbs, 1), and has been further developed in studies of factories (Jaques, 9; Rice, 15). But on Tikopia the most pressing and immediate problem was the relation between Government and chiefs; the partial solution to this problem had repercussions throughout the Tikopia social structure, solving and creating problems in turn.

2. Since the unit of study is Government and indigenous people, *the anthro-*

pologist must occupy a position outside both systems, especially outside the Government hierarchy. This is defined by Dobbs as the *sine qua non* of operational research (Dobbs, 1, pp. 29-30). If I had been a member of Government, I should not have been in the advantageous position of being able to interpret both sides to one another as freely as I did;⁴ I could not have worked as quickly towards the goal of placing responsibility for dealing with outside problems upon the Tikopia. Similarly, if I had been completely identified with the Tikopia, I should have had difficulty in seeing Government's point of view.

I was exceedingly fortunate in having a good working-relationship with Government. Several factors contributed to this. Basically I agreed with Government on policy. Government shared my feeling of sympathy for the Tikopia and my desire to help them. The officials were men of high calibre and they were fully prepared to make decisions quickly and realistically. I had easy access to all levels of the Government hierarchy. Without this kind, or at least some degree, of co-operation with Government, operational research would be impossible.

According to this principle, the anthropologist is studying and has relations with both Government and indigenous people but is not fully identified with either. This raises the question of the possibility of a community, whether Government or indigenous people, being able to assimilate a role for which they have no precedent in their social structure. The anthropologist may have a perfect conception of his role and play it perfectly, but if it is not known or comprehended by the society there may be little or no communication. The fact must be faced that the anthropologist, wittingly or not, is assigned a number of roles. He has to begin with those that are understood; then, as the study proceeds, he can develop the operational research role, which he has preconceived. Awareness of the potentialities of the operational research role rather than its precise definition is the important first stage.

Operational research, then, cannot be carried out unless both Government and indigenous people are willing to give positive sanction to the anthropologist. For the primitive society, particularly if it is isolated and unsophisticated, this is likely to be a rather academic question. They may object with passive resistance but they are usually not in a position to keep the anthropologist out. With Government the situation is different, for unless they give their active assent, this kind of research becomes impossible. I should hazard the guess that Government officials are most likely to welcome the idea of operational research if they feel there are administrative problems in the area but that these problems are not so serious as to appear insoluble; or if conditions are basically in good order but more and speedier communication is required for adequate formation and execution of policy.

The anthropologist's position outside the hierarchy should also be maintained in the financing of operational research. In the development of such work it seems advisable that financing should take place in phases. In the initial phase the anthropologist would most probably be paid by a private foundation. In a second phase, when the nature of the work is better understood, he would be paid by a distant branch of Government; financing by the local government would identify the anthropologist too closely with its interests. In a third phase operational research

4. For a brief discussion of the difficulty of anthropologists becoming administrators, see Tax *et al.* (19, p. 181). For a discussion of anthropologists as permanent technical advisers to administrators, see Fosbrooke (6) and Moffett (13).

would be financed by the local unit of study, the Government and the indigenous people. This would imply considerable sophistication and monetary development of the indigenous community. At the present time many indigenous peoples can pay only in food, housing, and the enormous prestige which even now anthropologists are frequently accorded by the groups they study. The status and attention given to an anthropologist by a primitive community should be recognized as payment for services that the anthropologist provides with little difficulty to himself, services which the indigenous people may find it impossible to procure for themselves.

3. *Both parties involved must recognize that a problem exists and there must be some agreement in principle about its solution.* Both Government and Tikopia agreed that people should not die of hunger, that violence should be prevented, and that labour recruiting should be more strictly controlled. Violent antagonism between Government and Tikopia would have impeded or made impossible a satisfactory solution to these problems. It is doubtful whether a government would want a social anthropologist to do operational research if relations between Government and governed were openly hostile or if complete tranquility were the order of the day.

But in some field situations the recognized problem is not the essential one. One of the tasks of the operational research worker is to point out that the vital problems are not always the obvious ones, as in the case of the *inaki*, when Government was unaware of the political implications of the rite. Mair also suggests that anthropologists can make themselves most useful if they '... do not seek to recommend action so much as to lay a finger on maladjustments, to indicate trends, and to check the accuracy of current assumptions' (Mair, 11, p. 187). This view is also expressed by Schapera (17, 18) and is exemplified by Firth's discussion of the social aspects of the Colombo Plan (3). While I agree in general with this point of view, I should add that although the anthropologist may not seek to recommend action, nevertheless when he indicates trends, which amounts to making interpretations of the indigenous people to Government, he is in effect implying a course of action.

4. *The main task of operational research is the continuous interpretation of events to both parties of the social system, enabling them to take one another into account in their decisions and formation of policy.* Operational research is concerned with a situation that is constantly developing and changing, and the most helpful interpretations are those rendered while the process of change is going on.⁵ Problems are dealt with as they crop up instead of being saved up, as so often happens in applied anthropology, for recommendations in a report written some time after leaving the field, by which time the problems and the government personnel will probably have changed. As Evans-Pritchard has pointed out (2), reports written after leaving the field are most useful to the administrator as general background information. If administrators have time and interest—which in many areas they have not—such reports can deepen their sociological understanding. But anthropological monographs are written primarily for other anthropologists, and as the discipline becomes more advanced technically, the monographs become more and more difficult for the administrator to understand and apply. (Forde (4) and Schapera (18) both make this point.) Administrators require special reports, to meet their needs. But in my view it is even more important that *specific prob-*

5. For a similar point of view see Kennard and Macgregor (10, pp. 839-40).

lems should be dealt with on the spot, preferably in person, instead of only in a written report.

5. *The operational research worker should assume professional as distinct from personal responsibility for his actions.* Professional responsibility is not easy to define. Its precise meaning is known only for those arts or professions such as medicine and law that have had a long history of public practice and service. In the full professions a code of ethics has been established governing standards of work and relations with the public. The doctor or lawyer, by virtue of his training, is expected to assimilate the conscience he will share with other members of his profession. He is handed a formal reminder of it on graduation day. In the case of social anthropologists, no such standardized code governs their relations to the people they study, for anthropologists do not provide a regular, continuous service to clients. Anthropologists do of course adhere to an academic code of ethics, but this relates to university affairs rather than to the provision of practical services to clients. For these reasons I view social anthropology as an academic discipline and not as a profession. I am not suggesting here that anthropologists may achieve full professional status only through carrying out operational research. I am stating that professional responsibility is a necessary component of operational research.

As a first attempt to define professional responsibility in an anthropological field situation, I should say that it means accepting the consequences of one's presence in the area and attempting to understand how it affects the life of the community, not only in the present but in the future as well. It means working towards the goal of leaving both Government and indigenous community—but particularly the Tikopia in the case reported here—better able to cope with such problems as may arise after the anthropologist has gone.

I am sometimes asked if what I did on Tikopia was any different from what any European would have done. No anthropologist, however set he was on sticking to the role of observer, would have done nothing in this situation. A Government officer, a trader, even an entomologist would most certainly have tried to prevent violence and to help the Tikopia get food. But professional responsibility implies more than coping with an immediate crisis. On Tikopia it meant working towards the long-term goal of leaving Government and Tikopia better able to communicate with each other and to make realistic decisions in terms of each other.

The idea of professional responsibility has many implications. First, the field worker's position outside the hierarchy implies an attempt at impartiality towards both sides, which in all probability can be maintained. But this does not mean that the field worker has no effect on the situation, or that he is a detached observer. Claims that one is only an observer, a recorder of facts, a disinterested spectator, are phrases of cant, or they indicate self-deception. When Government and informants ask the anthropologist a question, his answer is in fact an interpretation. On Tikopia several difficult incidents might have been avoided if I had recognized from the outset that what the Tikopia really sought was clarification of Government's attitudes and intentions and not simply information. To vexing questions, silence itself is treated as an answer.

Second, having accepted the fact that his mere presence has some effect on the situation, the anthropologist must constantly make judgments about the course of action most likely to achieve the long-term goal of leaving the people studied better able to cope with their problems. On Tikopia I decided that at this stage of their contact with the outside world, it would be best to try to get the chiefs and *maru*

to cope with the political crisis. It would have been easier to have presented Government with one spokesman and representative of the Tikopia, Robinson Vaka. Nevertheless I chose the more laborious and difficult course of getting all the chiefs to approach Government individually or as a group through an interpreter of their own choosing. While Robinson Vaka would have been speedier and more efficient, using him exclusively would have only postponed the day when Government would have had to discuss and clarify basic issues with each of the chiefs. Supporting Robinson exclusively would have undermined an already weakened traditional authority, which in my judgment would have reduced the society to chaos. My judgment may have been wrong. But at this stage it seemed best to keep Robinson in his traditional role as a 'strong *maru*' and to bolster the chiefs' prerogative of dealing with external affairs.

In retrospect, it appears that I made several errors of judgment, partly because I was learning as I went along, and partly because I was not fully aware of the effects of my own sympathies and prejudices at the time. My direct intervention to prevent violence, for example, although necessary at the time, could probably have been avoided if I had not been trying previously to withdraw into the observer role.

I think that some of the 'objective' information I gave to various officials was heavily slanted so that they would come to the policy decision I considered best. I am still convinced that this bias in what I then considered factual information resulted in a just solution, but it was also motivated by my anxiety to get Government to take back the task of command so that I could recapture my former role as an impartial observer of the Tikopia instead of being their commander. It occurs to me that at the time of Mr. Davidson's visit, when I was so busy shedding my 'command' role in Tikopia, by suggesting policy to him in his dealings with the Tikopia I was actually once again issuing commands to them in an indirect way. I did not realize this at the time, but I see now how interpretations can be so distorted unintentionally as to make only one decision possible. It is a rare man whose supposed objective statements are not coloured by hidden subjective elements in his personality. The only antidote to this all too human foible is the awareness by the anthropologist that he is capable of committing it.

Another error of judgment, both naïve and emotionally based, was my expectation that the Melanesian priest on the island would have the same code of ethics as a European priest. He had the Western status but not the Western norms of the position. In retrospect, it is evident that my naïveté blocked my understanding of the fact that he had to act in a way personally objectionable to me not only to satisfy the Mission's expectations of him, but also to survive in the famine. If I had been more aware of my biases at the time I might have reduced somewhat the increasing tensions between the Mission and the Christian chief on the one hand and the pagan chiefs and myself on the other.

Endemic factionalism is a common characteristic of many small communities. Working through or closely with a faction may stabilize the situation while the operational research worker is on the spot. It does not remove the conflicts or guarantee that the people will be able to cope with new conflicts without fitting them into old factional patterns. There is no doubt that I was 'captured' by the pagan faction. I think it more than possible that one can avoid the pitfall of acting spontaneously according to one's personal feelings of sympathy for one faction and antagonism for the other. But I do not think that an anthropologist living in a small community can avoid emotional identification with the people in it. He must

have recreation and he must work in the company of other people if he is living in isolation with them. For the period of his field trip he is bound to have special friendships with persons of the community in which he lives. It is difficult indeed to have an ascetic morality guiding what has to be gregarious behaviour.

The anthropologist's *personal responsibility* for his everyday behaviour depends partly on the mores of the people he is living with and partly on his own character. But the split from his professional responsibility cannot be complete. The important questions are whether his behaviour jeopardizes his professional responsibilities and how it affects his relations to the groups with which he is working. In brief, the anthropologist cannot avoid being fitted into the local social system through being assigned pseudo-kinship status and roles, adopting some of the local mores, and forming special sympathies and prejudices; but he can avoid acting uncritically according to his sympathies without being aware of what he is doing. The object is not to eliminate these prejudices and sympathies, which is impossible, but to be aware that they do colour judgment and interpretation. It is just as important to recognize that one cannot clarify everything and that clarification itself may be biased as it is to be in a position to make an interpretation. The point is not to fulfil a role for the sake of fulfilling a role. The point is to know what one's aims are, how best to fulfil them, and when and why one is departing from a preferred mode of conduct.

In work of this kind special problems arise over publication and the communication of confidences. It seems to me the principle to be followed here is that if repeating a confidence is likely to have repercussions or to cause embarrassment to any of the people involved, it must be treated as a secret. But practices that can only be termed criminal by the European administration, such as infanticide and sadistic punishments and abortion, do occur in primitive societies, either through ignorance of European law or through the heavy pressure of tradition. Should the research worker report to Government the individual cases? If it is an undesirable practice, the important issue is not that it does occur, but why it occurs. Such explanation will be far more valuable to Government for long-range understanding and control than any immediate punishment it may choose to inflict. If a specific case is reported to Government, it has no option but to act immediately on the information. But I think such practices can be discussed with Government in such a way as to indicate that they are probably occurring but can be understood and controlled by indirect means.

Publication of matters concerning the Government with whom one has enjoyed a confidential and cooperative relation, without discussion of the material beforehand, amounts to a betrayal of confidence. It would make cooperation in future work extremely difficult for oneself and for other anthropologists. As primitive peoples become more westernized and more sophisticated, the same rules of confidence will apply to them.

6. *Operational research has a double aim: (a) the conceptual aim of contributing to the analysis of social processes and social change, and (b) the practical aim of effecting a change in the situation under study.*

(a) The conceptual contribution of operational research rests on the recognition by social anthropologists that all primitive societies change continually, not only because of external influences, but also because of internal developments. No anthropologist can seriously entertain the idea of a community immune from all change, or, as Nadel put it, no anthropologist would now want 'to preserve them

(primitive peoples) in a sort of living museum or anthropological zoo, presumably in order to study them undisturbed' (Nadel, 14, p. 11). Any attempt by Government or anthropologist to prevent change would be defeated not only by missionaries and traders, but also by such people as the Tikopia themselves, who desire, welcome, and are willing to pay the price of social change.

In anthropology social change is often studied by examining a primitive society at two separate time periods, but this approach is limited because it is frequently difficult to tell what has gone in the interim. Or an attempt is made to identify long-range trends, a method that is much easier to use when there are historical records of past developments. In operational research, change is studied while it actually occurs. The operational research worker makes predictions and sees whether they are valid. The advantage of this method is that one can study the exact mechanisms of social change. The disadvantage is that many social changes take so long to run their course that they are not completed while the anthropologist is doing his field work. Field trips of two to three years would allow one to deal with short-term changes, but the analysis of general trends would require historical records or return field trips.

In operational research the ideal is an experimental situation in which variable factors can be controlled by the experimenter. This ideal is rarely approached in most groups, but certain types of social change have been very effectively planned and studied by operational research, especially in industrial situations. Thus Rice was able to study the socio-technical system of weaving in a cotton mill, to predict what form of work organization would be most appropriate, and to show that when this form of organization was adopted production went up (Rice, 15).

On Tikopia I could not make this precise, controlled sort of experiment. I did make predictions, but, with the exception of the migration scheme and the effect of the sophisticates, they were not concerned with general social change. They dealt with such problems as crops, time of recovery, and the likelihood of violence. Most of these forecasts turned out to be inaccurate. Fortunately Government put me in the position to correct these mistakes. Allowed this luxury of correction, my subsequent interpretations and predictions in these matters proved reasonably accurate. In the case of migration, my prediction was correct, but it was of little use to Government because, in terms of resources and organization, the recommendation could not be implemented in a hurry.

It is sometimes asked if this sort of activity is research or just inquiry. If the criteria of research are a systematic formulation of the problem, collection of data, and testing of hypotheses, then operational research can be classified as a scientific endeavour. It differs from other disciplines in that the standards of work are more exacting, since hypotheses are tested immediately and there is little room for speculation about their validity. Operational research is most effective in analysing short-term processes and changes. Their interpretation by the anthropologist and the practical application of his interpretations affect the process of change. But, what is more important, he is able to follow up the results of his efforts and to correct his errors of interpretation or the method of applying them. But such a concentration on social process and change need not preclude the collection of conventional anthropological data. Indeed, such data are essential for proper understanding of social processes, and on Tikopia I should have been seriously handicapped if I had not been able to build on Firth's previous work.

Several aspects of Tikopia social organization were clarified because I watched them changing in response to crisis. It became apparent that the chiefs could deal with external crises and people (hurricanes and Government), but that they could not do much to cope with internal violence. This was not their province. The *maru* coped with the internal problems of the island and applied the rigorous discipline so alien to the general permissive behaviour of the chiefs towards their people.

Through the activity of the *maru*, especially the charismatic leader, Robinson Vaka, there was a sudden development of the institution of the *fono*, and a decline in the *fono* as the crisis lessened. This indicated that the *fono* was an emergency institution that lay dormant in normal times, being used only in situations of crisis. The function of such an institution in a society without written records can be learnt only by observation. It also indicates that the development of an institution is not necessarily an irreversible process of social change. One needs to observe the whole process of rise and decline to be sure of this point. This raises questions of some interest: in future crises and changes will the *fono* be used again by the young sophisticates to achieve power and to bring European notions of authority and legal sanctions to the island? Will the young sophisticates again shift from a revolutionary position to one of support of traditional authority? Or will they actively campaign to weaken further the power of the chiefs and older *maru*? The nature of the kinship and land-holding systems and the present policy of Government preclude the abolition or overthrow of chiefs, but do not preclude a loosening of traditional mechanisms of social control.

Another set of processes may also be indicated briefly. On Tikopia a series of methods was employed by the people in coping with the crisis. At first they made an attempt at a realistic solution in proposing migration of labour to the New Hebrides, but this was frustrated. The Tikopia propensities for idealizing individuals and spawning rumours were then intensified and given impetus. This was followed by a struggle for power between factions and an attempt at a violent solution of their problems. After this had been averted, tension remained but was controlled by the reinforcement of the dominant institutions, the chiefs and the *fono*, and the lead was given in control of punishments and theft by a charismatic leader. Plans for migration were begun, but interest in them declined as the situation improved. These phases of development may be compared with reactions to similar crises in other societies. Although such a comparison is beyond the scope of this paper, it might yield results of predictive value.

(b) The *practical aim* of operational research is twofold: (i) to effect changes in the situation while the anthropologist is in the field, and (ii) to leave the social unit, that is, Government and indigenous people, better able to cope with their problems in terms of one another.

Certain short-term practical results can be assessed for Tikopia. Rice was fairly distributed. Violence was kept under control. The traditional authority structure was strengthened. All these results, as I said earlier, with the possible exception of the last, might have been achieved by any European taking personal initiative. But an understanding of such features as factionalism, the roles of chiefs and *maru*, the function of the *fono*, and the *inaki*, requires specialist training if interpretations of some lasting use are to be made.

Other results were gained by my attempts to get the Tikopia to take responsibility for their own decisions. Communication with Government and with traders was greatly improved. Their interpretations of Government decisions were more

realistic in terms of Government policy. The Tikopia realized their responsibilities in economic relations with the outside world, although I do not think they were necessarily better able to cope with these themselves.

Judging from recent reports, it would seem that the Tikopia understood what I was trying to do while I was there, but have not yet reached the point where they feel they can dispense with someone who will live with them and interpret European governmental aims to them and their own aims to Government. Mr. Pat De Burgh Thomas got to know the Tikopia well in his last three years as manager of the Lever Brothers plantation on which Tikopia labourers worked. He was extremely fond of them and received in turn rather hectic Polynesian affection. Before he left the Solomons, he was asked by the Tikopia to stay on the island, and they made fantastic promises for this eventuality. They explained, 'We don't need another chief; we have our chiefs; but we need a man like you who will explain our mind to Government.' In brief, it seems that the Tikopia wanted a man outside the hierarchy who could interpret the attitudes of each side to the other. It is also clear that if the job on Tikopia had been officially defined as operational research, I left before the task at hand was fulfilled. In any attempt to control social change, it is only too true that for every problem solved, a dozen more are created.

The issue of paganism versus Christianity on Tikopia was evidently resolved after a disastrous influenza epidemic in July-August 1955. Many people died, including two pagan chiefs. According to recent reports, all the remaining pagans, chiefs included, were baptized into the Christian faith. There are no details on the factions, the *fono*, or the powers of the chiefs and *maru*.

Another practical point from the Tikopia experience concerns the phases of the food crisis—from hurricane to famine recovery. Comparison with similar disasters in places with like conditions might be of predictive value, especially in the timing of relief supplies. It would seem that it takes three to four months for acute food shortage to develop after a severe hurricane on an isolated tropical island like Tikopia. This is the period of grace for organizing and distributing relief supplies. On Tikopia ten tons of rice, enough for two weeks, were sent four months after the hurricane, but this was not enough to halt the increasing shortage of food. The food shortage became a famine in the sixth month. Seven months after the hurricane twenty tons of rice were sent, enough for four weeks. It would seem that once the death-rate starts to increase because of malnutrition and lowered resistance to disease, relief supplies cannot be counted on to arrest it immediately; on Tikopia the death-rate began to decline four to six weeks after the second shipment of rice. The Tikopia experience also suggests that relief should be timed to arrive after the fallen crops have been eaten but before people are driven to tear up unripe crops from the ground. If the population can be persuaded to subsist almost exclusively on relief supplies for a four- to six-week period so that growing crops remain almost untouched, the speed of recovery is hastened by proportionately more than four to six weeks.

The practical aims of operational research can only be achieved if the social anthropologist shows some sensitivity to the social structure of the government he is dealing with. Too frequently anthropologists are so obsessed with the exotic elements of their field work that they forget by whose courtesy they are able to conduct their investigations. This does not mean that an anthropologist must agree with government policy; but it does mean that he demonstrates his ineptness in his subject if he offends officials by disregarding courtesies or proper acknow-

ledgement of those occupying the offices of government. It is curious that sometimes anthropologists embarked on 'objective' studies display compassion and understanding for the indigenous community but find it much more difficult to take a dispassionate view of Government as a social system. If an anthropologist is engaged in operational research, he cannot identify himself exclusively with the interests of the indigenous people; he must also think in terms of government policy for a wide area. Such policy he may or may not find repugnant. If he does not find broad government policy too disturbing, then his only real concern is with government policy on specific problems. My expectation would be that in most cases policy connected with a *specific* problem and its solution would not involve to any great extent the moral or political beliefs of either anthropologist or Government. If the anthropologist disagrees fundamentally with *general* government policy, such disagreement would soon become obvious, and would pose the choice between compromise of beliefs and the expediency of solving an immediate problem on the one hand, and adherence to general moral or political beliefs on the other. Thus operational research would not be possible in all situations. But all too frequently anthropologists who disagree with general colonial policy seek to take issue with it at the local level, where it is only executed, not formed.

But these are issues for which no general rule can be stated; they are decisions that only individuals can make for themselves, without reference to a directive. But these decisions must be made primarily in terms of the government one is dealing with, as it is they who hold the power of implementing directed social change.

Thus, in a practical sense, the chief value of operational research (and here I am paraphrasing Dobbs) is that it couples the capacity of a technical analysis of a given situation from someone outside the organization with the recognition of what is possible in terms of resources. The social anthropologist presents the administrator and the indigenous people with an analysis that is not only relatively impartial but also *immediate*, an analysis that can be realized in action.

SUMMARY

PART I

1. A severe hurricane in February 1952 on the small, isolated Polynesian island of Tikopia caused a famine accompanied by political crisis. A frustrated attempt at a realistic solution—extensive labour migration—was followed by increasing tension, stealing of food, threats of violence, and wild rumours. After relief supplies arrived stealing continued. An acute struggle for power developed between the adherents of the traditional authority system and the adherents of the native Mission. A young sophisticate who had worked abroad became a charismatic leader. He supported the Mission and opposed the pagan chiefs. He and his followers advocated capital punishment of thieves. Open violence was averted by the intervention of the anthropologist. The charismatic leader then threw his weight behind the pagan chiefs and their *maru* (executive officials). He used his authority to develop a system of controlled punishment, organized the enforcement of a strict code of rules for protecting the crops, and helped to plan a migration scheme. Regular political meetings (*fono*) were held to deal with the crisis. The traditional leaders, their power reinforced by Government, assumed full public responsibility for the maintenance of order and the recovery of the island.

Communication with Government and understanding of its policies were improved. The food supply gradually increased, and even after a second hurricane in 1953, order was maintained. Interest in migration disappeared when the food shortage was over.

2. Two anthropologists, Professor R. Firth and the author, had come to Tikopia in 1952 to study social change. The crisis forced them to assume other roles besides the traditional research role of the academic anthropologist. They first acted as advisers to Government, which could not maintain frequent communication with Tikopia normally because of its isolation. Then they acted temporarily as executive officers of Government in the distribution of rice. After Firth left in August 1952, the author attempted to be an objective detached observer, then of necessity intervened directly in Tikopia affairs, after which he gradually developed an operational research role.

PART II

3. Operational research is here defined as the attempt to produce an effect on processes of change while they are being studied. The principles of operational research that emerged from the Tikopia experience are described as follows:

- (i) The unit of study is Government *and* indigenous community.
- (ii) The anthropologist must occupy a position *outside* this unit. He must not be completely identified either with Government or with the indigenous community.
- (iii) Both parties involved must recognize that a problem exists, and there must be some agreement in principle about its solution.
- (iv) The main task of operational research is the *continuous* interpretation of events to both parties of the social system.
- (v) The operational research worker should assume *professional responsibility* for his actions. This means accepting the consequences of his presence in the field, and attempting to work towards the goal of leaving the social unit better able to cope with its problems after he has gone. It also requires awareness of how his own prejudices, which cannot be eliminated, affect his sociological analysis.
- (vi) Operational research has a double aim: (a) the *conceptual* aim of contributing to the analysis of social processes and social change, and (b) the *practical* aim of providing an analysis of immediate problems that can affect the situation under study.

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BIOGRAPHICAL NOTE

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Organizational Control Structure

A General Descriptive Technique as applied to Four Local Unions¹

ARNOLD S. TANNENBAUM AND ROBERT L. KAHN

MUCH interest of late has been focused on the importance of the control function in organizations. Cartwright has pointed out that 'a major deficiency of our theories of group psychology and of social psychology generally is that we have been soft on power', and he has reviewed a number of studies that demonstrate the importance of this variable in interpersonal situations (1). Some effects of varying conditions of control within an organization have been discussed by Worthy, who points out that delegation of control to local autonomous groups within a large organization has a favorable effect on morale (8). A recent experiment performed by the Human Relations Program of the Survey Research Center has likewise demonstrated the effects of differing conditions of organizational control on the involvement and satisfaction of employees within a business organization.²

The results of these studies emphasize the importance of control as a social-psychological variable, especially for the understanding of organizations. There are a number of reasons for this importance. First of all, by definition, control is the capacity to manipulate available means for the satisfaction of needs (4). Control is basic to the distribution of rewards and punishments within the organization. What a person gets out of an organization depends in part on who controls the available stock of rewards within the organization, or, more generally, on who determines the way in which the organization shall operate. Control processes, of course, are an essential aspect of the functioning of an organization. They help circumscribe idiosyncratic individual actions and keep them conformant with the rational plan of the organization. Organizations require conformity and the integration of diverse processes. It is the function of control to see that organizational requirements are properly met, and the ultimate goals of the organization achieved.

Control has further social-psychological significance because of its association with types of political systems. Democracy is described as control by the citizens and their representatives. Dictatorship can be characterized as a highly centralized system of control, with ultimate power concentrated in one or a few persons. Oligarchy and *laissez-faire*, communism and fascism, refer to different systems of control, to the distribution of control among people in different social positions, and to the extent to which the behavior of an individual is subject to the control of others.

1. The authors would like to thank Angus Campbell, James K. Dent, Eugene Jacobson, and Daniel Katz for their helpful comments concerning this paper.

2. This work was begun under the general direction of Daniel Katz, and was directed by Nancy C. Morse and Everett Reimer. The authors would like to acknowledge this study in particular for laying the ground-work for many of the ideas discussed in the present article. For a brief relevant description of this project see N. C. Morse, E. Reimer, and A. S. Tannenbaum (5).

Control, as a social-psychological variable, is important for another reason. Psychological predispositions to types of control systems are developed early in life. The infant's behavior is controlled by persons upon whom he is extremely dependent, and the process of socialization involves the imposition of controls by parents, teachers, and other 'authority figures'. In this growing-up process, a pattern of responses to control is developed. Control takes on an emotional meaning.

Control, then, is important as a variable because it relates to the satisfaction of important human needs, because it has broad social and political implications, and because it has acquired an emotional meaning for people. A very general notion upon which this investigation is based states that differences in control systems within organizations will make for numerous and widespread differences in the functioning of those organizations.

It is our objective in this paper to illustrate a descriptive technique for the study of organizational control structure. Although this method is largely in an exploratory stage, it nevertheless helps clarify certain aspects of control in organizations. It appears further to suggest new dimensions of importance.

The data represented below are taken from a study of membership participation in four local unions. The unions chosen for study are of the industrial type, are within a size range of 300-850 members, and are located in Michigan. They were chosen to differ in their level of membership participation as measured by attendance at meetings (regular and special), member activities at these meetings (such as raising and seconding motions, asking questions, etc.), involvement in committee work, and voting in union elections. The locals are assigned fictitious names, and are called, in the order of their level of membership participation: National, Sergeant, Ensign, and Walker.³

We shall be interested below in exploring the control characteristics of these locals as they relate to participation, and shall discuss tentatively the relationships among aspects of control, ideology, and uniformity behavior in unions.

THE CONTROL GRAPH

We have chosen to represent the control structure of our locals in terms of a general schema that we have called the 'control graph'. The horizontal axis of this graph represents a scale of hierarchical levels in an organization. In many local unions this scale would run from the rank-and-file members at the low end through various office levels to the president at the high end. (In a business organization, it might include the employees at one end; various supervisory groups at intermediate levels; and the board of directors, or president of the board, at the other end.)

The vertical axis of the control graph represents the amount of control instituted by these various hierarchical levels. This may vary from none to a very great deal of control. Thus, 'having a great deal of control' means that persons at the hierarchical level under consideration determine in large degree the specific actions and policies of the organization. 'Having no control' on this dimension means that *all* persons

3. Participation in the four locals was measured by means of a written questionnaire administered to a random sample of about 150 members in each local. The rank order of locals obtained in this way corresponds to independent judgment made by international officers.

at a given level have no 'say' or influence in determining the policies and actions of the organization.

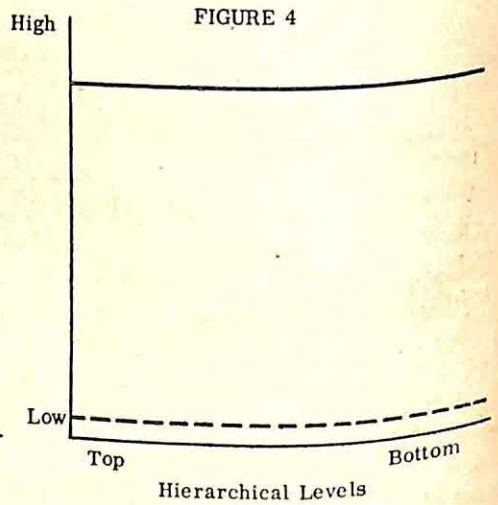
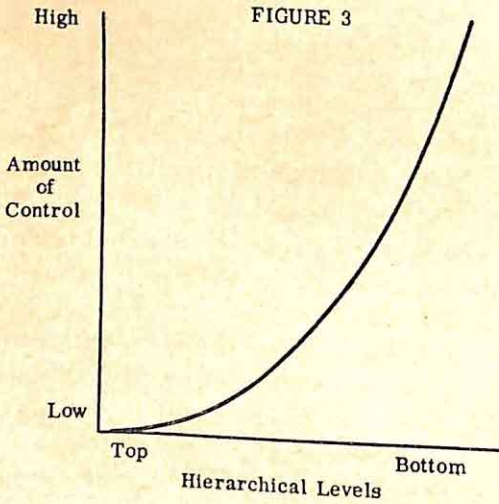
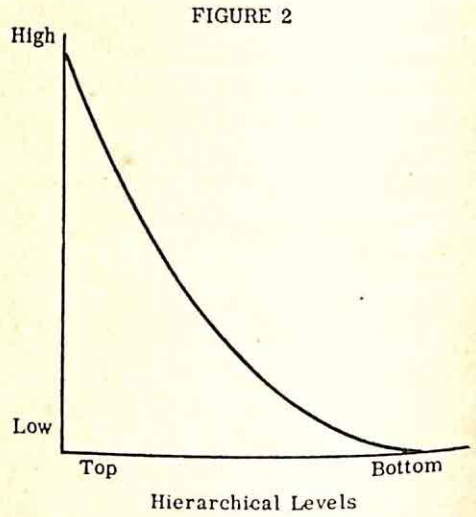
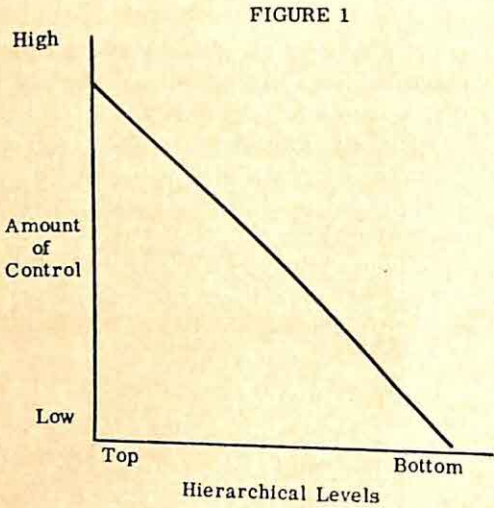
We can now create a curve by plotting and connecting the points that show the amount of control characteristic of each hierarchical level. One can conceive of such control curves assuming various shapes and levels. For example, one curve may have a negative slope, indicating that the amount of control instituted at successive levels increases as one goes up the hierarchy. Such a curve might be a relatively straight line, indicating regular increases in control from one level to the next (*Figure 1*), or it might have a positive or negative acceleration. In some organizations, there may be very little increase in the degree to which the various levels institute control until the top of the organization is reached; there a great increase takes place. This type of organization is controlled by only a few individuals (*Figure 2*). It is conceivable too, for the curve to decline as one moves up the hierarchy. An organization in which the leader has little power relative to the body politic would yield such a picture (*Figure 3*). A curve of this kind does not necessarily identify a figurehead or ineffective leader. This shape of curve applies also to an organization where individuals at the lower levels *as a group* have more control than the individuals at the uppermost level, even though these may be active and effective leaders.

Some organizations may be characterized by a relatively flat curve. Such a curve may be *low* and flat, indicating a very low degree of control throughout the organization. A *laissez-faire* or anarchic situation, for example, would be described in these terms (dotted line in *Figure 4*). On the other hand, a flat curve might be high on the vertical axis, indicating that people at all levels in the organization have a great deal of influence (solid line in *Figure 4*). The difference between these two flat curves, one low and one high, illustrates a general postulate concerning control curves, that the shape of the curve may remain constant while the general height of the curve varies. In other words, the *relative* power of different hierarchical levels might be the same in two organizations that nevertheless differed greatly in the absolute amounts of control exercised. Important differences in organizational functioning would be expected to accompany such variations in the general height of the control curve, despite the fact that the shape of the curves remained the same.

Control curves give us, by implication, a good deal of information about an organization. It can be seen from the preceding diagrams that the height and shape of the control curves tell us something about how control is distributed in an organization and also something about the *total amount of control* that is instituted in that organization. This latter dimension, total control, is indicated by the general height of the control curve, or more properly by the area under the curve. It is to a large degree independent of the shape of the curve. Total control may vary while the general shape of the curve remains the same. On the other hand, the general shape of the curve may vary while total control remains constant.

Data on total control, together with information on the distribution of control within the organization, should provide an effective method of describing important aspects of the control structure in an organization. For example, a high flat curve suggests that many persons in the organization have a lot of 'say' on many issues. A low flat curve indicates that no one has much to say about any issue. In the former we have the picture of an active, relatively strong organization eliciting the involvement and participation of a large segment of its members. The latter implies

Figures 1-4
The Control Graph—Types of Control Curve



a relatively weak, inactive, *laissez-faire* organization. In the extreme case there is question as to whether or not the agglomeration of persons involved in such a situation can be called an organization at all.

In order to derive control curves for the locals studied in the present research, the amount of control instituted by individuals at varying levels in the union hierarchy was ascertained. The hierarchical levels include the membership at the low end, the president at the high end, and the executive board and bargaining committee somewhere between.⁴ We have operationalized control at these various levels by asking judgments of our sample of respondents. This means, of course, that we are measuring control in terms of member-perceptions rather than by more objective means. We are making the assumption that an accurate picture of control in these locals can be derived as an average of *all* the members' judgments. The validity of this assumption remains to be tested fully, but in the present instance it received some confirmation from the observations of the authors and the judgments of international officers. The four questions employed in this connection are:

1. 'In general, how much do you think the president has to say about how things are decided in this local?'
2. 'In general, how much do you think the executive board has to say about how things are decided in this local?'
3. 'In general, how much do you think the plant bargaining committee has to say about how things are decided in this local?'
4. 'In general, how much do you think the membership has to say about how things are decided in this local?'

Each of these questions was answered by checks on a five-point scale ranging from 'a great deal of say' to 'no say at all'. Figure 5 represents the control curves for the four locals based on the data from the above questions.

A number of comparisons are possible from these curves (p. 132).

1. within-local differences in the extent to which various hierarchical levels exercise control,
2. between-local differences in the extent to which any given hierarchical level exercises control,
3. between-local differences in the general shape of the curves,
4. between-local differences in total control—the general height of the curves.⁵

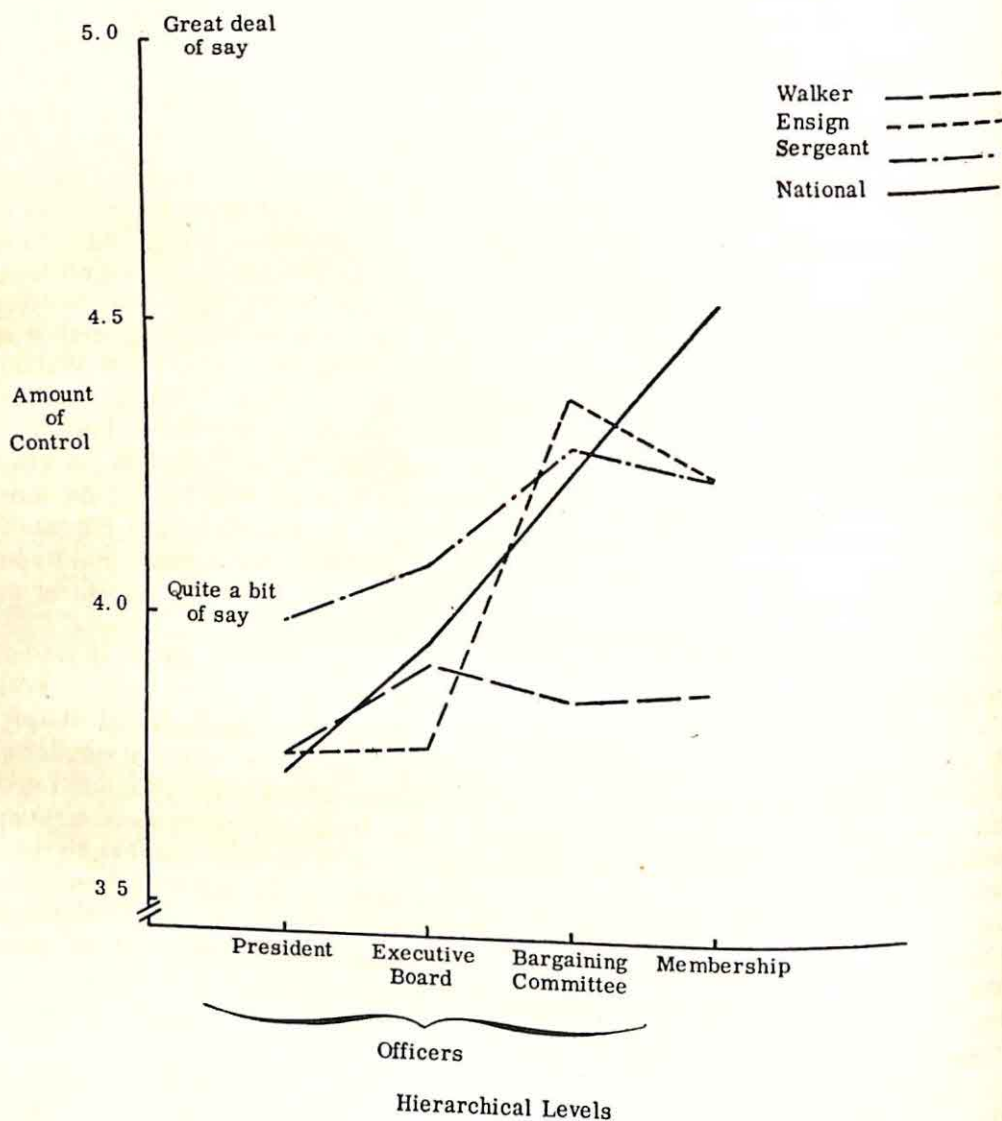
In the following discussion, it will not be possible to explore in detail each of these potential lines of analysis. We will attempt, however, to include in our observations points illustrative of all four types of comparison.

An examination of the curves tells us immediately that within each local the several hierarchical levels appear to institute different amounts of control, although the differences are more marked in some locals than in others. In order to evaluate more precisely which of these visible differences represents significant increments of control, statistical tests were performed on the differences between the amount of

4. It is obvious that we are not dealing with equal scale units along the abscissa, and that the ordering of executive board and bargaining committee is somewhat arbitrary. While it is clear that these groups fall between the president and the membership, their relative positions are uncertain.

5. This is operationalized in the present study simply by adding the amount of control for all of the groups—the membership, executive board, etc.—in each local.

FIGURE 5



CONTROL CURVES OF FOUR UNION LOCALS BASED ON MEAN SCORES OF RATINGS ON HOW MUCH SAY VARIOUS PERSONS AND GROUPS HAVE IN HOW THINGS ARE DECIDED IN THE LOCAL *

* The means are based on N's of about 150 in each local.

control exercised by the membership of a local and the amount exercised by each of the officer levels—president, executive board, and bargaining committee. In National, the membership as a whole has a significantly greater amount of control than either the bargaining committee, executive board, or the president.⁶ In Ensign, the membership as a whole is significantly higher than the executive board and the president, but does not differ significantly from the bargaining committee. In Walker, the membership does not differ significantly from any other group, but a suggestive difference exists between the membership as a whole and the president. In Sergeant, the membership is significantly higher than the president, but it does not differ from the other groups in the local.

An examination of the curves for between-local differences in the amount of control exercised by a given hierarchical level calls attention to some differences that offer corroboration of information obtained earlier by observation and from the comments of international officers. For example, the sharpest contrast between locals is that between the amount of control exercised by the membership in National, the local highest in member-participation, and that exercised in Walker, the local lowest in participation. National had been cited by international officers as a local in which the membership was especially active in decision-making.

A similar comparison can be made in terms of the amount of control exercised by local presidents. Sergeant stands out among the four locals as having the most influential president. This is substantiated by direct observation of this officer, by the reference of the international officers to his 'tight political machine', and by his election to seven successive terms of office. At the time of this measurement no other local president had served more than a year.

Comparisons in the shape and height of the four curves can be discussed simultaneously to some advantage. The curves for Walker and Sergeant are both relatively flat, but the amount of *total control* in these two locals differs sharply. Sergeant is high in total control, while Walker is relatively low. National stands out as having a relatively steep curve. It is the only local where no other group ranks above the membership in amount of control. In Ensign and Sergeant the bargaining committee ranks first and in Walker the executive board ranks first, although these within-local differences are not significant. While a definitive characterization of the four locals should not be attempted on the basis of these data alone, National appears to conform most closely to the 'democratic' model, while Walker more closely approximates the *laissez-faire* model. Sergeant's high total control with lower membership control suggests a kind of oligarchy or 'élite' government, while Ensign appears to conform least to previously discussed prototypes.⁷

Although the membership as a whole ranks high on the control curves, this does not imply that each member individually has more influence than each officer individually. The average member, though part of a group having a great deal of influence in the local, is very markedly less influential than the president, for example. The power of the membership is distributed among a large number of people; that of the president is in the possession of one person. Moreover, although

6. The t-test for paired differences was employed here. The 5 per cent level of confidence is accepted as a criterion of significance. Differences at between the 5 and 10 per cent levels are referred to as suggestive.

7. It should be remembered that these classifications are inferred from the curves and are not the basis for the curves. The essential element in our discussion is the curve itself and not the types associated with it.

in one local the membership is the single most powerful group and in the other three the second most powerful group, the membership cannot be considered (except perhaps in National) to be more influential than the other groups *combined*. The above data seem to suggest that, while the membership does have very high influence in each of these locals, the officers (including the president, executive board, and bargaining committee) *as a group* might have more. Their influence would be dominant if the officers were to act in a concerted manner, as a single tight-knit group.

THE APPLICATION OF CONTROL CURVES

Many questions and hypotheses relating control to other functions in organizations have been proposed in the literature. For example, how does control relate to conformity behavior, to participation, to leadership characteristics, to the ideology or philosophy of an organization? What effects do such variables have on the control structure of an organization, and in what ways are they affected by that structure? The limited sample of four locals of course precludes any definitive answer to such questions; however, by way of illustrating the application of control graphs, a number of tentative conclusions are suggested.⁸

The control graphs suggest that some current hypotheses about organizations might be sharpened if they were stated in terms of specific dimensions of control (such as its hierarchical distribution or the total amount of control instituted by all hierarchical levels), rather than in more global terms. For example, let us take a question around which conflicting hypotheses have been generated: what are the implications of inter-organizational conflict on control processes within the opposing organizations? One school of thought maintains that 'Continued . . . antagonism between corporations and unions prevents the latter from sinking into bureaucratic sloth. Merely to survive, the union must remain vital, democratic and militant' (2). On the other hand, we have the widely held belief that conflict between organizations may lead to the tightening of control by the leadership.

The data of the present study suggest that conflict between organizations is related to the total amount of control exercised in these organizations, but not necessarily to the hierarchical distribution of that control (see *Table 1*, p. 135). The rank order of the four locals with respect to amount of conflict with management is identical with their rank order on total control, but apparently unrelated to the slope of the control curve (i.e. distribution of control).⁹

On the basis of these data, we might hypothesize that the most immediate effect of conflict with management is to increase the amount of control within the local. The rationale for this hypothesis might be developed along these lines: conflict does not necessarily imply *who* should exercise control, but merely that control should be exercised. Conflict increases the organizational problems implicit in idiosyncratic behavior. This may serve as an incentive for concentrating control in the hands of a few *or* for increasing the total amount of control in the organization in other ways. The important thing is that the organization be more tightly and 'efficiently'

8. A. Tannenbaum discusses more thoroughly the rationale and implications of the relationships sketched in this section in (7). See also a forthcoming book by the authors.

9. The ordering of locals with respect to union-management conflict was done *a priori*, on the basis of information obtained from company and union officers.

controlled. During conflict (or certain other crises), there may be a greater sensitization to and acceptance of control *throughout* the organization, not merely at the lowermost levels. We are therefore led to the hypothesis that inter-organizational strife will create an increase in *total control*—but not necessarily exerted at the top of the organization. The distribution of this control in time of crisis is determined by other factors, as it is in more restful periods.

What factors do determine the distribution of control? One general view states that the specific external functions that the union performs have an important effect on how control is structured within the union. For example, Hoxie argues that 'business unions', which strive exclusively toward the achievement of such specific 'bread-and-butter' goals as higher wages, shorter hours, and pensions, tend to emphasize internal discipline and autocratic control (3). Howe and Widick make the complementary suggestion that unions that are interested in broader social functions and problems (political action, the general welfare of the community, organizing the unorganized) tend to be democratically controlled (2).

In the present study, members were questioned directly regarding their level of interest in eight different issues, each of which had been judged by the authors to represent either 'broad' or 'bread-and-butter' goals. Member-responses were combined to form indices of interest level in each type of goal. Evidence from these data, summarized in *Table 1*, lends some support to the hypothesis that an interest in broad and general goals for the union may be correlated with the observance of democratic procedures (positive sloped curve). However, interest on the part of the union in bread-and-butter issues does not appear to be correlated, positively or negatively, with democratic procedures. This no doubt reflects the fact that a union may have an interest in *both* types of goal; an interest in broad issues does not imply lack of interest in bread-and-butter problems.

A final example of the application of control curves can be given brief mention here, with a summary of the relevant data in *Table 1*. This involves the phenomenon of conformity or uniformity of attitudes and behaviors in unions. Uniformity was measured in this study in terms of the inverse of the variance on a number of items chosen *a priori* to reflect union norms. These items include perceived norms about voting, attending meetings, and helping out on strikes; the frequency of sanctions against members for failure to perform the above functions; the intensity of member-involvement in the union, and the alacrity with which members utilize union channels for the expression of grievances. Uniformity, like inter-organizational conflict, appears to be associated with total amount of control, rather than with

TABLE 1 RANK ORDER OF LOCALS ON CERTAIN ASPECTS OF THEIR CONTROL STRUCTURE AND OTHER VARIABLES

Local	Degree of positive slope of control curve	Subscription of members to broad goals	Total amount of control	Uniformity behavior	Extent of union-management conflict	Subscription of members to bread-and-butter goals
National	1	1	2	2	2	2.5
Ensign	2	3	3	3	3	4
Sergeant	3	2	1	1	1	1
Walker	4	4	4	4	4	2.5

the distribution of control within the local. Thus, in the present sample, greatest uniformity is found in Sergeant, which ranks first in total control; there is least uniformity in Walker, which ranks last.

FURTHER IMPLICATIONS AND QUESTIONS

The above discussion is intended to illustrate briefly the application of control curves to testing relationships between aspects of control and other organizational factors. Some further implications and questions relating to the use of these curves are summarized below.

1. The curves characterize in terms of two continuous variables a number of organizational types that have hitherto been treated as important but discrete. Such concepts as democracy, autocracy, and *laissez-faire* as distinct types or classes of control structure are brought into a single schema. We are thus provided with a unitary way of looking at these types, and at the same time working with the many variations between these extremes. A democratic control structure in unions might be diagrammed as a control curve having particular shape. This curve would be high for the rank-and-file and relatively low for persons in the upper hierarchy. The autocratic model, on the other hand, might present a somewhat different picture. This curve would be low for the rank-and-file and relatively high for those at the top of the hierarchy. *Laissez-faire* involves still another picture—one that is low for all levels of the hierarchy; no one has any appreciable control over the organization. The converse of *laissez-faire* would be described by means of a curve high at all points along the hierarchy. This would be a highly regulated type of organization, perhaps characterized by a large amount of internal political activity and clique-formation. Although such a control pattern would seem to be as interesting and important in its implications as *laissez-faire*, it has been neglected in social studies. Needless to say, the infinite variations between these extremes are also of interest; it seems likely that a full understanding of control in organizations will come, not alone through studies of democracy, autocracy, and *laissez-faire* as pure types, but through studies that examine the full range of control patterns in organizations.

2. The control curves of course emphasize the importance of control in organizations, and provide a means of taking a more holistic view of it. Studies of leadership, influence, and power in organizations can be made within such a framework. Leadership, for example, is not simply the influence of one isolated person by another, but a process in which the persons involved are placed at various points on the organizational control curve. It can be expected that such leadership processes and behaviors will be affected by the positions of the actors on this curve, and also by the general shape of the curve itself. Some research data already available point in this general direction. For example, Pelz finds that a leader is effective with his subordinates to the extent that the leader himself has influence in the organizational hierarchy (6).

Questions in this area that deserve further investigation include the following: What effect does varying the relative power positions of leaders and followers have on leadership processes? What implications do varying shapes of control curves have on leader-follower behavior? Is there an optimum curve for achieving maximum leadership effectiveness, and for other criteria of organizational functioning?

Is the supervisor in an organization high in total control confronted by a set of role requirements different from those of the supervisor in an organization that is relatively low in total control?

3. The control curve presents a picture of the control distribution in an organization. Organizational control, however, is a more fluid and dynamic process than is suggested by the control curves, which reflect the situation at a given point in time. The question of alignments and coalitions is one that should be considered. For example, one group may be lower than another in the amount of control it can institute in the organization, but it might add to its effective control by aligning with a third group. Groups might do this on a temporary basis relative to a specific issue, or they might form a more permanent faction or clique. If some rough assumptions about the additive properties of control can be tentatively accepted, certain judgments about the effects of various types of alignments might be made. For example, in an organization with an extremely steep curve, one group may be so powerful that no combination of opposing groups can overpower it. In an organization with a relatively flat curve the balance of power may be so delicate that any shift in the alignment of sub-groups may change radically the control situation. Such an approach leads into the intricate question of political processes in organizations, and suggests that an investigation of such processes could be carried out with the use of control curves.

4. One might speculate about the psychology of control in connection with these curves. One analysis of interest would entail plotting the control curves for all the organizations to which a given individual belongs: his work, his social groups, his family, etc. From this we can derive a control profile for the individual. These profiles can be expected to vary considerably from person to person, with some rather extreme types being manifest. One, for example, would be the individual who has relatively little control in any of the organizations to which he belongs. Another, and perhaps more rare type, is the individual who has relatively high control in all of the organizations to which he belongs. Still others will have differing degrees of control in the various types of organizations and groups to which they belong. An analysis of the psychological correlates of such differing patterns of control for individuals should be extremely rewarding. Their entire psychology, their way of looking at life, their general attitudes, their aspirations and levels of satisfaction would be expected to differ markedly.¹⁰

5. There are, of course, many questions with regard to the use of the control curves as an analytical technique. These refer to methodological as well as theoretical difficulties:

(a) The units of measurement are problematical. Scaling of equal units along both the abscissa and ordinate would be ideal. This has not as yet been done, and is complicated by the fact that organizational hierarchies do not conform to simple statistical assumptions.

(b) The relationship between the actual control structure of an organization and the structure as perceived by its members and leaders requires further exploration. An accurate measure of the actual control structure is by far the more difficult to

10. The data of the present research suggest the hypothesis that active union members differ from inactive members on this control profile; actives tending more in the direction of greater control in the organizations to which they belong, while inactives tend in the direction of lower control.

obtain. Although we have assumed that the measures employed in the present study accurately reflect the control picture as it actually exists, we recognize the need to test this assumption.

(c) There are aspects of control in organizations that appear to have broad implications, but are not fully reflected in the control graphs as they are presently drawn. The graphs do not give information about the mechanisms by which control is exercised, although these may modify greatly the effects of a given level or amount of control. For example, control may be exercised through the dispensation of rewards, the institution of sanctions, or through combinations of these. In organizations and political systems, control may be exercised directly, or indirectly through the employment of agents or representatives. While the graphs are designed to describe the *amount* of control that individuals at various hierarchical levels exercise, they do not describe the means through which this control is exercised.

(d) These curves may be better diagrammed in terms of specific areas of control rather than in terms of general (global) control in the organization. If specific areas are used, a satisfactory way of integrating these to provide an overall picture must be developed.

(e) The curves discussed above are based on what we have called *active* control. The actor is doing the controlling. Curves can also be drawn in terms of *passive* control. In these cases the actor is *being* controlled. The relationship between these two types of control needs further investigation. It would be informative in examining the control structure of an organization to consider simultaneously the passive control curve (the extent to which persons at various levels in the hierarchy *are controlled*) and the active control curve (the extent to which they *are doing the controlling*). An infinite number of variations are possible but a number of prototypes might be chosen for special study. For example, is the autocratic model one where *active* control is great at the top of an organization and small at the lower levels, and where the slope of the passive control curve presents the reverse picture?

Does the democratic model imply a reversal of the above curves? Is 'responsible leadership' distinguished from 'autocratic leadership' by the fact that the former has *both* high active and passive control? Is the 'responsible' leader, in other words, controlled as well as controlling? The president of a republic, for example, has considerable power (active control) but in turn he is also subject to many constraints (passive control). The leader in a dictatorship, on the other hand, may have a great deal of power, but relatively few constraints. The implications of the various shapes of active and passive control curves and the combinations of such curves deserve further investigation.

(f) A type of hypothetical curve might be plotted describing the amount of control and the distribution of control that is *desired* by the membership. This may or may not correspond to the *actual* control structure. If these two curves, actual and desired, were superimposed, the discrepancies between them (perhaps best thought of in terms of the area between them) would be expected to have an important bearing on membership participation, involvement, and loyalty to the organization. In an organization where the actual control curve differs sharply from the desired curve, the area between these curves is great, and we would predict a corresponding degree of dissatisfaction, frustration, and disaffection among the members. Contrast this with a second hypothetical organization having the same actual control structure but in which the desired control curve corresponds more closely to the actual

curve. We would predict for this organization a greater degree of membership satisfaction and loyalty.

We have only begun to think about this problem, but past psychological research suggests the importance of discrepancies between what individuals want and what they get. Although the actual distribution of control appears to have direct implications for the satisfaction of members, the *difference* between the actual and desired curves may make an additional contribution to our understanding of the implications of control.

While the control graph is primarily descriptive, it has both conceptual and operational advantages. It helps one think about the process of control and it offers specific operational indices for characterizing and measuring aspects of control in organizations. It opens up to the process of scientific testing a number of hypotheses that have been discussed primarily in speculative terms.

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BIOGRAPHICAL NOTES

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*A Psychological Model for the Study of Social Assimilation*¹

RONALD TAFT

ASSIMILATION has been regarded by some sociologists, notably Park and Burgess (20), as one of the basic social processes. Social psychologists, however, usually either neglect the concept entirely or use it synonymously with socialization (e.g. 7, 22). And yet assimilation refers to a most important aspect of person-group relationships: namely, the cognitive and behavioural changes that occur as an individual transfers his membership from one group to another. Whenever the norms of these groups are inconsistent with each other, some degree of personal adaptation is usually required before the individual can effectively transfer his membership. Thus, considering the important role played in social adjustment by group memberships, it seems appropriate that social psychologists should devote more attention to the process of changing these group memberships. The studies of socialization are concerned mainly with the acquiring of group memberships *ab initio*, but we should not neglect the special case where a person, already a member of a group, is re-socialized as a member of a new group.

Our working definition of *social assimilation* as applied to the study of individual behaviour, is *the process whereby, as a result of social interaction, a person transfers his membership from one group to a second group whose norms are inconsistent with those of the first.*² This is the process that occurs when immigrants or group members assimilate to a prevailing national culture. This is the most common instance in which the term assimilation is used, but it is too often overlooked that the same process occurs in almost every area of group relations. Some typical and important examples are: social class mobility, religious conversions, imprisonment, internment and rehabilitation, army induction, industrial induction, joining a social or residential group, marriage (in some instances), and starting at a new school.

The literature, whether psychological, sociological, or romantic, abounds with descriptions of the assimilation of individuals in the above and other similar situations, but these descriptions are largely disconnected and little scientific use can be made of data obtained in one situation for an understanding of behaviour in the other. Admittedly, there are some fundamental differences in the various types of situation, for example, the degree of 'ego-immersion' involved, the control exercised by the group over its members, or the permeability of the group to new members, but it should be possible to delineate some of the more basic variables that apply to all assimilation situations.

1. This theoretical analysis has been assisted by a grant given by the Carnegie Corporation of New York to the University of Western Australia.

2. This definition is oriented towards changes in one individual in relation to his group memberships, but where the interaction occurs between potent or large numbers of members of the two groups, the result may be the formation of a new all-embracing group; that is, all of the interacting persons 'assimilate'. See (25) for further discussion of this aspect of assimilation.

Ultimately, the full explanation of the various types of assimilation will require the integration of the social sciences, and, in fact, this problem might well prove to be an eminently suitable focusing-point for exploring the possibilities of collaboration between the separate disciplines. However, the study of assimilation is very complex indeed and too little work has as yet been done to analyse the variables involved in even the one well-studied aspect, that of assimilation of immigrants. Perhaps the outstanding attempt to handle the different levels of abstraction involved in this problem is the study by Eisenstadt on the absorption of immigrants in Israel (6). That author brings to bear on the problem analyses deriving from psychological, sociological, cultural, historical, and economic material, but the existence of large gaps is obvious.

Before we can go on to the study of the factors determining the course of assimilation, we need to analyse more carefully our dependent variable, the assimilation process itself. The present paper will be largely devoted to that purpose. Does assimilation refer to accommodation, acculturation, social acceptance, convergence of norms, or self-identification? All of these are relevant and are, in a sense, stages in a process, the ultimate end of which involves complete absorption or merger. Our primary task will be to analyse the stages of assimilation and to consider the extent of their co-variation and some possible sequences in which they may occur. Some reference will also be made to possible connections between certain sequences and personal or social disorganization.

In this paper the emphasis will be laid on the social-psychological level, the level of such concepts as attitudes, frames of reference, social motivation, ego-involvements, beliefs, reference groups, role expectations, and role behaviour. The approach adopted probably owes more to Newcomb's pioneering study of attitude change at Bennington College (16) than to any other single study, but obviously there is a vast body of psychological literature that is relevant. Some of the relevant studies have been ecological, e.g. the study by Newcomb just referred to or the American Soldier studies (24); other studies have selected some limited aspect for investigation under controlled conditions, e.g. communication and persuasion (10), or the relation between social status and frames of reference (1). The use of rigorous controls facilitates the study of single relevant variables, but it is very difficult, if not impossible, to vary in the laboratory some of the factors that may be important to a full understanding of the assimilation process as it occurs in an actual social situation. Studies of the basic learning processes involved in socialization, such as conformity, imitation, suggestion, sympathy, contagion, convergence, and identification are also relevant. Such studies, however, tend to ignore the effect of the subjects' previously existing group memberships or their behaviour in the test situation, and therefore the application of their results to the study of assimilation must be made with reservations.

THE STAGES OF ASSIMILATION

Membership in a new group implies a number of things including: a mutual willingness on the part of the new and old members to communicate with each other with some degree of social intimacy, consensus between the members on norms and values, the allocation and acceptance by the members of certain role requirements, and some degree of identification with the group. The model that

follows attempts to handle each one of these aspects of group membership in relation to the person who is assimilating.

To simplify our model as far as possible let us suppose that a person, X, is a member of Group I, a voluntary membership group. He identifies himself with this group and accepts its 'fundamental social norms', i.e. the beliefs, reference points, and role expectations whose acceptance by the members is of importance to their membership and to the continued existence of the group. Let us suppose, further, that there is a second group, Group II, which differs from Group I on these fundamental norms. X is in communication with Group II, and eventually he withdraws from Group I and becomes a member of Group II. This is the simplified prototype with which we shall concern ourselves, but we should note that in practice the situation is likely to be more complex in a number of respects. First of all, we have assumed that the norms of Groups I and II remain stable during the period of assimilation, whereas the norms of one or both of them might easily change as a result of their interaction (25). If the norms of the two groups converge, X as an individual may assimilate without giving up his membership of Group I, that is, without passing through a marginal stage. But in practice this is an exceptional case. Usually, new entrants or would-be entrants to a group have little effect on the norms of the group until they have become fully accepted members of that group. We shall therefore concern ourselves more with the 'monistic' type of assimilation rather than with the 'interactionist', while admitting that as more and more former members of Group I join Group II the differences between the groups are likely to diminish.

A further simplification that we make is to consider the case of only two groups. In practice a person's behaviour is a resultant of several group memberships, and as Eisenstadt has shown (5), the efficiency of assimilation is influenced by the existence of multiple reference groups.

We have postulated that Groups I and II differ on some fundamental norm, and in such cases it is not uncommon for the two groups to be hostile to each other. In our present model we shall assume that the groups are not in a state of overt hostility, as this condition would force individuals to mask any assimilation tendencies from one another until the transition could be made by a sudden saltation. Our focus is on the transition stage itself and we therefore wish to deal with situations where it occurs gradually. The 'instantaneous' type of transition, however, is interesting in itself; for example, the dropping of Communist Party membership, or defection from one side to the other in the Cold War (some examples of this process are given in 12).

To return to our model. The 'dramatis personae', so to speak, are as follows:

X, a member of Group I, moving into membership of Group II.

The members of Group I.

The members of Group II.

The larger society of which Groups I and II are segments.

In our assimilation chart, the stages of assimilation are set out in two columns, A 'internal' and B 'external'. The internal stages represent the behavioural field of the individual, X, himself and are expressed in terms of the intervening variables of social psychology—judgements, attitudes, norms, identifications, etc. The external stages represent either publicly observable behaviour on the part of X or the attitude and behaviour of members of Group II and society at large; all of these parties may or may not act consistently with regard to X's assimilation at any point in time. In

ASSIMILATION CHART

<i>Stage</i>	<i>A. Internal to X</i>	<i>B. External</i>
1. Knowledge of Group II culture 'Cultural learning'	Assumed knowledge	Actual knowledge
2. Attitude to Group II	Favourable attitude to (i) the members (ii) the norms (iii) own membership of Group II	Active seeking by X of (i) interaction with Group II members (ii) participation in its activities (iii) membership
3. Attitude to Group I	Unfavourable attitude to (i) the members (ii) the norms (iii) own membership of Group I	Withdrawal from (i) interaction with Group I members (ii) participation in its activities (iii) membership
4. Role assumption 'Accommodation'	Conformity to perceived role requirements of Group II	Conformity to actual role requirements
5. Social acceptance	Perceived acceptance by Group II into social intimacy	Actual acceptance by Group II
6. Group membership 'Identification'	Self-identification with Group II	Identification of X with Group II by (i) Group I members (ii) Group II members (iii) Society at large
7. Convergence of norms 'Congruence'	Perceived congruence between own and Group II norms	Actual congruence between own and Group II norms

the sequential pattern of the assimilation process the internal and external stages interact with each other; for example, actual social withdrawal from participation in Group I (Stage 3B) activities might well be the consequence of perceived acceptance by Group II (Stage 5A). The stages described in the chart are not expressed in the only possible order, although they roughly represent a likely progression. A point to note however is that the onset of one stage is not intended to imply the completion or elimination of an earlier one. The stages overlap and subsequent stages might reinforce and restimulate earlier ones.

Let us now look at the descriptions of the various stages. We have attempted to provide an operational anchorage for them by suggesting a method of measuring the stage reached by X at any particular time in his transition from Group I to Group II.

We shall illustrate the material by reference to the findings in a number of Australian studies. These are the assimilation of British skilled tradesmen in Western Australia (21), the absorption of national trainees into the Australian Army (28), the assimilation of former Hungarian intellectuals in Western Australia (4), and the attitudes of Jewish citizens of Melbourne (19, 26).

STAGE 1

Cultural knowledge refers to familiarity with all aspects of the culture. This includes the group's institutions and sub-groupings, the attitudes, techniques, beliefs, and values of the members, and the reciprocal role requirements within the group and between group members and non-members. The most important aspects of this cultural knowledge from the point of view of assimilation concern the knowledge necessary for X to perform the role requirements associated with his status in Group II. Knowledge of the culture of a structurally complex group can never be complete even in the case of a life-long member of the group, and the newcomer's degree of knowledge should therefore be judged in comparative terms.

From the point of view of assimilation, a most important aspect of cultural knowledge is language or the special argot of the group; not only does this knowledge facilitate other cultural learning, but it also permits maximum group participation. Furthermore, the use of the particular argot of a group, for example, teen-age groups, is often a symbol of in-group acceptance. Thus, we should expect a positive correlation between the active use of this type of cultural knowledge and identification with the group (Stage 6). In some situations, however, for example immigration, X's identification with the new group does not occur completely until his knowledge of the culture is so great that he can play his role without revealing his alien origins, for instance by speaking the vernacular without any accent.

There are undoubtedly individual differences in ability to learn alien cultures but we know little at present about the psychological determinants of this 'aptitude'. Presumably intelligence, education, and flexibility are highly relevant, but so also are situational factors such as X's motivation, the encouragement and assistance provided by Group II, and the gulf between the cultures of Group I and Group II. Some of these factors have been dealt with by Eisenstadt (6), but there is room for considerably more study in this important area.

Cultural learning can occur without previous interaction with the group, for example, a migrant can learn the vernacular before immigrating, or he can study the 'way of life' of his destined country. Such learning is likely, however, to have a considerable element of assumed knowledge (Stage 1A) that does not correspond with objective knowledge (Stage 1B), and unlearning of such misconceptions and stereotypes may be necessary before assimilation can proceed.

That speed of learning is not necessarily a function of the degree of contact with the culture (Stage 2B) or of a favourable attitude towards it (Stage 2A) is shown by results in both the National Service trainee and the Jewish citizen studies (28 and 26). In the Hungarian intellectual study, however, better English language knowledge seemed to follow from visiting Australian homes, i.e. culture contact, although again this knowledge did not relate to favourable or unfavourable attitudes towards Australia.

In the long run it is the actual cultural knowledge (Stage 1B) that determines the degree of assimilation at Stage 1. If, however, X assumes that he has such knowledge, even when in reality he has not, this can lead to assimilation by giving him the confidence necessary to participate in the activities of Group II and thus to acquire knowledge about it. This evidently did occur in the case of the Hungarian immigrants, since only those who considered their knowledge of English to be good participated socially with Australians. In a similar fashion, favourable

stereotypes about Group II held by X, even though false, might enhance his acceptance by that group.

The measurement of Stage 1 will vary according to the area of the culture concerned, but in all cases it will be based on an information test. Richardson used a test of Australian slang as one measure of acculturation (21) and other studies have used tests of ability to predict the modal attitudes of group members on various questions (16, 26). The degree of assumed knowledge (Stage 1A) may be measured by self-ratings on the information topics.

STAGE 2

X's attitude to Group II has three partly independent facets: (i) towards the members as persons, (ii) towards the group norms, and (iii) towards achieving membership in Group II. These three aspects can be measured by attitude questionnaires or they can be inferred from behaviour. Empirical evidence (21) suggests that high intercorrelation may be expected between the three aspects of Stage 2A, but inconsistencies between these attitudes do not necessarily indicate poor personality integration; for example, an immigrant may like Australians as people, but for other reasons may not desire to become an Australian citizen.

Interaction between X and the members of Group II may be initiated through a number of circumstances. Propinquity alone can lead to interaction, but Stage IIB in our model limits the case to X's actively seeking such interaction. We should note, however, that such activity on X's part does not always imply a favourable attitude. He may be serving some other motive that requires interaction with or even acceptance by the members of Group II. This association might in fact be repugnant to X, and under these circumstances it seems likely that X will perceive the behaviour of Group II members as confirming his unfavourable judgment of them (8). Enforced contact does not necessarily lead to favourable attitudes; on the contrary, it often results in increasingly unfavourable attitudes, at least in the short run. In both the English immigrant and National Service trainee studies, the subjects were more unfavourable to the new group after 3-6 months' close contact than they were at the beginning. Studies of the effect of contact with minority groups on prejudice (1) also suggest that contact alone does not lead to favourable attitudes, although under certain circumstances it may do so, for example the integration of Negroes into the U.S. Army (7, pp. 724 ff.).

Where X is already favourable towards Group II he is likely to seek interaction with its members and, eventually, to participate in any of its activities that is permitted to him as a non-member. This participation will aid him to increase his knowledge of the group culture, and will allow both the group members and himself to conduct informal reality tests of each other. Eventually, if X remains favourable towards membership in Group II he will take whatever steps are necessary to seek such membership, provided that he perceives such entry to be possible. The way in which his attitudes towards Group II are likely to be manifested externally is very much dependent on the nature of that group, its degree of permeability to new entrants, and the conditions of such entry. The future fate of X's favourable attitude is related to the kind of reception accorded his overtures (Stage 5) since a rebuff at this stage could easily change the favourable attitudes to unfavourable.

This reality-testing period is a very delicate one; not only can a misunderstanding easily nip the assimilation in the bud, but it is also at this stage that lack of common norms (Stage 7) or mutual knowledge (Stage 1) lead readily to misunderstanding.

standings. In voluntary contact situations, the assimilation process is likely to survive this stage only if X has persistent reasons for holding his favourable views towards Group II. Such reasons may be a prolonged or intense exposure to favourable propaganda about Group II, or to favourable personal experience with it, or X may perceive important instrumental advantages in his belonging to the group, or, finally, Group II may hold a high prestige position either with Group I or in a larger society incorporating both Groups I and II. This prestige factor often provides the drive for a minority group member who continues to seek to participate in, and eventually become a member of, a high prestige group in spite of rebuffs and even actual physical punishment that may be encountered. This painful process is made much easier for X if Group II membership enjoys high prestige with Group I members, but in many instances this is not the case; e.g. Roman Catholic to Protestant, communist to conservative, worker to management. In these examples, X either shares the norms of Group II rather than those of Group I regarding prestige, or he is betraying his own values in the pursuit of some ulterior motivation. Both of these situations, especially the latter, place considerable strain on his adjustment.

STAGE 3

X's attitude towards the above three aspects of Group II can be paralleled by his attitude towards the same aspects of Group I, his original membership group. We have postulated that Groups I and II differ on some fundamental and incompatible norm or norms, so that it would be logically inconsistent for X to be favourable to the norms of both, no matter what his attitude towards the other aspects of the groups might be. In many cases X will be logical in his attitude towards the norms, so that, if he is favourable to the norms of Group II then he will be unfavourable to the norms of Group I. In the long run these favourable and unfavourable attitudes respectively are likely to generalize to cover the other aspects of the groups. This generalization, however, is not a necessary development, and, even though X may eventually seek to shed his membership of Group I (Stage 3B) and assume membership in Group II, he still may retain a favourable attitude towards the members of Group I. Whether he does so or not is partly determined by the prevailing attitude of Group II members towards members of Group I. Where the groups are openly antagonistic, X probably will try to dissociate himself from Group I members and he may even outdo the other Group II members in their expressed antagonism to the opposition group.

Despite the logical reasons against X being simultaneously favourable to the norms of both groups, there are conditions under which this could occur. First of all, the incompatible norms may constitute only a small part of Group I's norms, so that X can still find enough harmony between the groups to warrant a dual loyalty. Secondly, by using 'compartmentalization' as a defence, X can tolerate the logical inconsistency and thus avoid, or more likely postpone, the conflict.

When the groups are mutually tolerant, assimilation can proceed in a manner more consistent with good personal and social adjustment. Judging by the reports of Craig in Australia (3) and Eisenstadt in Israel (6), the most felicitous assimilation occurs when X can change without giving up his membership in his primary group (i.e. Group I). Under certain conditions, Stage 3 is not essential to the early development of the assimilation process, and in any case it is socially and psychologically undesirable that this stage should come too early. Stage 3A(i) is

actually not essential at all in order to complete assimilation under conditions of tolerance.

The method of measuring Stage 3 is identical with that for Stage 2.

STAGE 4

Having determined to seek membership of Group II, it is likely that X will attempt to behave in accordance with the role he expects to assume in the group. This process has often been referred to as 'accommodation', which implies a behavioural adaptation without any necessary ego-involvement. Such non-involved accommodation could even precede Stage 2, as it sometimes does in the interests of harmony. In itself, this would not constitute a part of the assimilation process; it is only when it is combined with some of the other stages such as favourable attitudes (Stage 2A) or identification (Stage 6) that it does so. On the other hand, non-involved role-playing can easily lead to acceptance of the role; what may start off as 'role-playing' may end up as 'role-taking', and thus assimilation might occur in spite of the person's original intentions. For example, a non-communist intellectual in a communist country who collaborates with the régime in the interests of his own well-being and eventually becomes a believing communist himself. The psychological mechanism by means of which ego-involvement 'creeps up' on the role-player seems to warrant special study. Part of the process could probably be explained in terms of a person's need for, or habit of, checking his self-concept against feed-back from his own behaviour and from the behaviour of others towards him. On the other hand, it is also possible that the role-playing might simply allow X to become aware of favourable facts about Group II that he would otherwise have overlooked.

Role assumption may occur at any stage in the assimilation process, but whether it is likely to enhance further assimilation may depend upon X's perceptiveness in determining the appropriate role for himself. While a certain amount of behavioural adaptation may be required by Group II as an earnest of X's good intentions regarding membership in that Group, premature conformity by X might be considered presumptuous and lead to hostility and suspicion towards him. Premature role-playing in the absence of true knowledge (Stage 1A) may lead to stereotyped behaviour, lacking the subtleties known only to the better initiated. This would explain the grotesque behaviour sometimes indulged in by foreigners who think that they are completely assimilated. At the same time, many groups have special role requirements for persons who are in a stage of transition, e.g. initiates, probationers, alien residents, etc., and failure to carry these out, whether through ignorance or impetuosity, may set back X's assimilation progress.

In Stage 4, the internal aspect refers to conformity to the role requirements as X sees them, while the external aspect refers to conformity to the exact role requirements within the particular range of tolerance permitted by the group norms. Probably no member of the group conforms completely to these role requirements, and so the degree of conformity of the initiate should be considered in terms relative to the rigidity and control of the group in this respect.

The internal aspects of role assumption can be determined by questionnaires and interviews with X in which he describes what he considers the role requirements to be and how he himself behaves. The external aspect must be the subject of an investigation of the actual role requirements of the group itself, and of observation of X's actual behaviour.

STAGE 5

Social acceptance has been placed later in our model than role assumption since some degree of accommodation would usually be a prerequisite for such acceptance. This need not be so, however, if Group II wishes to obtain recruits in general, or recruits of X's type in particular.

It is difficult to define exactly what degree of intimacy is implied by 'social acceptance'. In some groups only a minimum of intimacy is required before X can fulfil a membership role in the group (i.e. reach Stage 6). For example, X could fulfil a role in certain religious groups by attending the chapel for prayer without necessarily having any further social interaction with other members of the group—such a situation involves only a small proportion of X's life activities, but it might well be quite ego-involving for him, and also satisfying. Some groups virtually place a ban on social intimacy between their members and those of some other group, e.g., colour castes or certain monastic orders, and yet members of the latter group (Group I) do sometimes succeed in joining them. Having become members (Stage 6) they then achieve social intimacy (Stage 5).

A further possible variation is the achievement of a close intimacy between X and one or several of the members of Group II without there being any chance of X ever becoming a member himself, e.g. the elderly patron of a youth club. This social intimacy would normally have a stable basis only where X as an outsider accepts the basic norms of Group II (Stage 7), or at least that part of the norms which excludes him from membership. The degree to which members of Group II can engage in social intimacy with an outsider who is a member of Group I will probably be a function of a number of conditions: the attitude of Group II to Group I, the importance of social relations to the purposes of Group II and the amount of control exercised by Group II over its members. A white Australian who becomes too intimate with an aboriginal might be shunned by other whites in the district (2), and thus be himself expelled from Group II, rather than being able to assist the aboriginal to join it.

In the normal course of events, however, it might be expected that social intimacy between X and members of Group II would lead to his becoming a member of it.³ If he does not already have favourable attitudes towards Group II (Stage 2), these might well become established as a result of the intimate contact. In general, however, Stage 2 will precede Stage 5, since in most assimilation situations X, rather than the members of Group II, will be the initiator. In the Hungarian immigrants study, the immigrants tended to invite Australians into social contacts (Stage 2B(i)) before they were invited back (Stage 5B).

The analysis by Newcomb of social interaction as a series of 'communicative acts' (17) is a valuable way in which to view Stage 5 in its relationship with some of the other stages of assimilation, Stage 7 in particular. Stage 5 involves different degrees of intimacy, ranging from casual contacts to friendship and marriage. Its external aspects (5B) can be measured by the various sociometric techniques inspired by Moreno and Bogardus, and its internal aspects (5A) can be indicated by X's predictions concerning the degree to which he is accepted. Presumably, if X wishes strongly to become a member of Group II he will tend to exaggerate the

3. Some of the subtleties in the relationship between the type of social interaction and favourable mutual attitudes are dealt with in (27).

degree to which he is accepted, and this distortion might well be a useful pointer to X's assimilation intentions.

STAGE 6

Identification is a particularly difficult term to define. Perhaps the best definition is a purely operational one—'an affirmative answer to the question "Do you consider X to be a member of Group II?"' This definition is appropriate whether we refer to X's self-identification with Group II or whether we refer to his placement as a member of Group II by (i) the members of Group I, (ii) the members of Group II, or (iii) society as a whole. In many cases we may infer that X is identified as a member of Group II from the overt behaviour of the persons concerned towards him; i.e. he is allocated (or permitted to assume) a social role that is consistent with such membership. As Nadel has pointed out (15, pp. 147 ff.), the use of names and of personal pronouns is often a good indication of the inclusiveness and exclusiveness of groups.

The identification of a marginal person's group membership is made difficult when there are inconsistencies in the way different people place that person's membership. For example, when does a person of Jewish origin become a Gentile? When he regards himself as one? When other Jews disown him? When an anti-Semitic group will accept him? When society no longer regards him as a Jew? Or, again, when does an Army recruit become a 'veteran'? The need for some clearcut objective criterion of a person's group identification is implied in the whole concept of 'membership group'. Probably the most useful criterion for the sociologist is 'acceptance as a member by Group II', but sometimes society will legally recognize one or more of the other criteria.

The position is further complicated by the existence in some instances of degrees of membership. As pointed out in Stage 4, Group II may have certain membership statuses that imply a tentative acceptance as a member; for example, probationer, pledge, proselyte, New Australian. In some groups it may never, or only rarely, be possible to proceed from one of these specialty statuses to a universalist one; in these cases, X's complete assimilation is impossible, although it might be available to his descendants.

All of the preceding stages of assimilation may affect the identification of X with Group II (Stage 6B), especially the degree to which he has outwardly conformed to its role requirements (Stage 4B) and been accepted socially by the group (Stage 5B). The internal stages, however, probably do not run in the same sequence as the external, for example, X may feel himself identified with the group (Stage 6A) immediately after he has adopted a favourable attitude towards membership in it (Stage 2A(iii)). In such cases identification may occur even where X does not have a favourable attitude towards the norms of Group II (Stage 2A(ii)), but where he believes that he may obtain some material gain from his Group II membership. This may be the case where X's former group (Group I) is a more progressive group than Group II, so that X has reason to hope that the Group II norms will eventually converge with his own. For example, a 'city slicker' moves to a country town in pursuit of economic gain. In the long run, of course, as a result of continued contact and social acceptance X may become more 'culturally assimilated' to Group II (see Stage 7, below) than he ever expected.

STAGE 7

Since the term 'norms' implies 'built-in' (ego-involving) standards, which members of a group use in judging their own behaviour and that of others, changes in a person's norms involve a fundamental change in his cognitive habits. Changes in norms are usually unconscious; because of ego-involvement it seems probable that a person whose norms have changed will resist for some time admitting, even to himself, that he has changed. We should therefore expect considerable divergence between X's actual congruence with Group II norms and his own perceived congruence, and this, in fact, is found (see below). We shall not attempt to analyse in detail the reasons for this resistance and lack of insight, but it is probably related to a need for maintaining some degree of constancy while so much else is changing during the assimilation process. This is the reason for suggesting that convergence of norms will normally be the last stage in the assimilation process; even lagging behind identification.⁴ This sequence could be expected especially where, as in the example given above, X interacts with Group II without being favourable to its norms. This often happens in assimilation situations, for example in the assimilation of European immigrants in newer countries where the 'way of life' is regarded as culturally inferior by the immigrant. The attraction of Group II could be something other than its norms, which may be adopted only slowly and perhaps imperceptibly during the course of the assimilation process.

The conditions under which social interaction leads to convergence of norms are still imperfectly known (see Mausner's review of the literature, 13), but we can say with some certainty that convergence will occur fairly readily when X is already favourable to the Group II norms. In many cases of assimilation, X may have had a preference for these norms even before he associated them with Group II (Stage 3A) or, at least, before he had any social interaction with the group (Stage 5). This preference for Group II norms may have been the stimulus that started X's movement out of Group I in the first place, and in such a case convergence with Group II norms could be expected to occur comparatively rapidly, if any change at all is required to make these norms congruent.

Results we already possess on the assimilation sequences related to convergence of norms suggest that perceived congruence and actual congruence often have separate histories. Favourable attitudes to the Group II norms are more closely related to the former than the latter. In our study of National Service trainees, perceived congruence and actual congruence (Stages 7A and 7B) were found to correlate negatively; the more the trainee thought that his values resembled those of more senior Army personnel, the less they actually did! Also Stage 7A was not related to Stage 1B, actual knowledge of the Army norms. On the other hand, there was a close connection between Stages 2A (favourable attitude to the Army in various aspects), 6A (identification with the Army), and 7A (perceived congruence with its norms).⁵ In the studies of immigrants (British, Hungarian, and Jewish) actual convergence of norms occurred progressively with increased contact with the

4. In an earlier publication (25) I defined assimilation as 'the process by means of which persons originally possessing heterogeneous frames of reference converge towards common frames of reference as a result of social interaction'. This definition is virtually a description of Stage 7, the ultimate stage in the assimilation process as outlined in the present model.

5. The psychological literature provides ample support for the connection between favourable attitude and perceived congruence. See for example (14) and (18). Newcomb uses the term 'perceived consensus' where we use 'perceived congruence'.

host culture, but not in the Army sample. In neither case, nor in the Hungarian immigrants study, did Stages 2B(i) (seeking contact with Group II) and 7B (actual congruence of norms) show any relationship. But in the Bennington Study (16) these two stages evidently were positively related, so, once more, we are reminded that the relationships between the stages are contingent on the circumstances.

The proposed method of measuring congruence is to compare X's own responses to an appropriate value questionnaire with those of the members of Group II. This method, although convenient, is often too patent and in some cases it is possible to use more indirect and subtle means based on projective techniques. Perceived congruence, the internal aspect of Stage 7, can be measured by a 'mass-empathy' test in which X is asked not only to indicate his own values but also to estimate the values held by members of Group II.

At this point we should note that our treatment of convergence to group norms has implied that these norms represent a fixed point to which all members of the group conform. This is a distortion of the usual position. First of all most of the norms represent a range of tolerance—rather than a point—within which variations are permitted to the members. Furthermore, groups vary in the degree to which they demand conformity from individual members. We cannot require from X that he should conform to Group II any more closely than is required of other members of the group, excepting in the cases where more stringent conformity is demanded from initiates or proselytes. Sometimes, too, *less* stringent demands are made on initiates, but then we could hardly speak of complete assimilation if X takes advantage of this tolerance.

Similarly, the members of the group would themselves be limited in their perceived congruence. We should therefore use the existing group members as a control group when we are assessing the degree to which X perceives his norms as congruent with those of the group.

This concludes our description of the seven stages. There is much more that could be said about the characteristics of the stages and the relationship between them. A further step now would be to take each stage separately and analyse it in more detail in relation to empirical data, but this will be deferred for another occasion.

SOME TYPICAL SEQUENCES

The model we have described could now be used to chart assimilation sequences as they are actually found ecologically. From these analyses we should hope to develop principles of assimilation that would include some generalizations about the effects of certain sequences. While typical sequences may be found, there is probably no stage that is a *sine qua non* to any later stage. Stages 4 and 7 (roughly corresponding to 'Cultural Assimilation') and Stages 5 and 6 ('Social Assimilation') seem essential for a person to conform to the popular conception of assimilation. The other stages, excepting possibly 3A(i), unfavourable attitude to the members of Group I, would in almost all cases precede these ultimate stages.

An optimum sequence for the assimilation of an immigrant in a democratic country might commence with accommodation to the assumed behavioural requirements of the host group and conclude with identification and convergence of norms.

Assuming the optimum case in which both parties (the immigrant and the 'host' group) favour assimilation, the following might represent a possible sequence:

Assumed knowledge of host culture (1A)
 conformity to perceived role requirements (4A)
 actively seeking social interaction with 'host nationals' (2B(i))
 social acceptance by hosts (5B)
 perceived acceptance (5A)
 favourable attitude to host nationals (2A(ii))
 actual knowledge of host culture (1B)
 conformity to actual role requirements (4B)
 favourable attitude towards becoming a member of host group (2A(iii))
 taking steps to become a member (2B(iii))
 disapproving of original immigrant group norms (3A(ii))
 rejecting own membership of immigrant group (3A(iii))
 perceived congruence between own and host group norms (7A)
 self-identification with host group (6A)
 withdrawal from contact (as a member) with the immigrant group (3B)
 identification with the host group by society (naturalization?) and by the host group and by the immigrant group (6B), and finally,
 actual convergence of norms to those of the host group (7B).

Certain reversals in the above sequence would have little consequence for the course of the assimilation, for example, if 7A were to follow immediately after 2A(ii). Other reversals, however, might give the course of assimilation a serious check; for example if 2B(ii) were to precede Stage 4, i.e. X tries to participate in Group II activities without any attempt to conform to its role requirements. Perhaps the commonest anomaly in assimilation is cultural assimilation (Stages 1, 4, and 7) without social assimilation (Stages 5 and 6). This situation, frequently exemplified by coloured people living in white communities, is a pregnant source of frustration and eventual communal strife. There is a need for considerable study of the personal and the social effects of various assimilation sequences under various conditions. But first we would need to chart some sequences that are found ecologically.

A start has been made on this in our Hungarian immigrant study, in which we found that the typical beginning of the sequence was: 1A (language knowledge claimed—actual knowledge not tested), 2B (voluntary participation with Australians), 2A (a combined index of favourable attitudes), and 7A (perceived congruence). Sometimes 7A precedes 2A, but 2B nearly always precedes 2A.

THE CONDITIONS OF ASSIMILATION

When we have more knowledge of assimilation sequences we shall also know more about the effects of different types of conditions. Many variables will need to be considered, and some of these have already been suggested in our treatment of the various stages. Without elaboration of their possible effects on assimilation, let us set down some of the relevant variables.

First, the attitudes towards X's assimilation held by the various parties concerned: X, Group I, Group II, and society at large. These could be classified as

pressing, willing, indifferent, unwilling, or blocking. Contrast for instance an unwilling recruit drafted by society into the Army with a Protestant joining the Roman Catholic Church through conviction. In the former instance the assimilation, if any, would be on the external side only at first, whereas in the latter the first stages would be mainly internal.

Closely related to the above are the attitudes of the parties to assimilation itself, for example do they have a monistic, pluralistic, or interactionist frame of reference (25)? Other relevant attitudes would be towards social relations in general and towards people of X's type in particular. Closely related to this latter variable is the degree to which X's 'type' (Group I origin?) is readily visible; this is a very important factor determining the ease with which ethnic groups can be assimilated. The salience of both Groups I and II to X's ego is also important. Some groups may be shed or donned like one's coat, others like one's skin.

Hemphill's list of group dimensions (9) that are related to leadership are almost all relevant to assimilation and we already have had occasion to refer to the 'flexibility', 'permeability', and 'control' of Group II. This list of variables is probably the best available for our purposes.

From observation it seems that there are also distinct individual differences in assimilation. Personality factors in X, such as intelligence, adaptability, tolerance, agreeableness, etc., would play a role. His personality and motivation also need to be considered in relation to the requirements and purposes of Group II; thus, for example, an extraverted person with strong gregarious drives might find assimilation especially easy in some groups and especially difficult in others. A further factor beyond Groups I and II. These multiple group memberships might either reinforce or inhibit X's assimilation processes.

CONCLUDING NOTE

The full delineation of the conditions that affect assimilation is a difficult but necessary task, but in this paper our intention has been merely to highlight the main ones. Our prime purpose, at this stage, has been to construct a series of headings under which the mass of material on assimilation processes can be subsumed. Obviously the model described here can represent only a first tentative step, but it may suffice to provide a common set of concepts required for studies of assimilation that be mutually comparable and reinforcing. What is needed now is a series of parallel studies conducted intensively on small collections of individuals who are in a state of mutual interaction, but are not yet formed into an all-embracing group. Sherif's inspired ecological studies of in-group formation (23) represent one type of study that could be followed, although his aim differed from the one suggested here. From such studies we might hope that a set of principles underlying this important aspect of social learning and group dynamics would emerge.

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*The Assimilation of British Immigrants in Australia*¹

ALAN RICHARDSON

I. INTRODUCTION

IN the past nine years approximately half a million men, women, and children have emigrated from Great Britain to Australia and there is little evidence to suggest that this flow is lessening to any great extent. Among the questions of considerable social interest that arise as a result of this very large influx of British immigrants into Australia is the problem of their assimilation. It is the purpose of this paper first to discuss some of the theoretical aspects of the assimilation process and second, by way of illustration, to present the results of a small-scale research project.

The concept of assimilation is a slightly ambiguous one because it tends to be used for two theoretically distinct levels of analysis—literally of course, it means *to become like*, but its ambiguity becomes apparent when one inquires, 'In what way to become like?' Different answers to this question will be obtained depending upon the direction of one's interest. Problems of assimilation have been the traditional province of sociology, and at this level interest has largely been focused upon the way in which immigrant groups become like the resident population in terms of such indices as occupational status, crime, marriage, fertility, divorce, mental illness, and so on. Almost all these data necessarily come from official statistics and there is seldom any personal contact between the investigator and the immigrants themselves and little if any concern with the subjective aspects of social change as the immigrant experiences it. For the sociological level of analysis it might be convenient to reserve the term *absorption* while employing the concept of *assimilation* for analysis at the socio-psychological level. Interest at this level would focus upon the changes in attitude that occur within the immigrant as he becomes more like the members of the resident population. In brief, the process to be discussed in this paper is not so much concerned with the way in which the society *absorbs* the immigrant, but with the way in which the immigrant *assimilates* and ultimately, perhaps, becomes identified with the social norms of the receiving society.

II. A CONCEPTUAL FRAMEWORK

Having isolated to some extent the class of data in which the social psychologist is more interested, the problem now arises as to the way in which the process of assimilation can most conveniently be conceptualized.

1. Modified from a paper read before the Social Psychology Section of the British Psychological Society, 23 February 1955.

A. ATTITUDE CHANGE

In considering this aspect of the process some attention needs to be given both to the objective or environmental situation in which the immigrant is placed and to the subjective or personal and social attitudes that he brings with him from his homeland. From the first moment that he arrives the immigrant is being bombarded with new facts—facts of climate and geography, institutional facts of political and economic organization, and facts of social behaviour. All these facts, whether physical and tangible like the climate, or rather less tangible like social behaviour—serve as potential stimuli for the production of new or modified attitudes. A simple illustration will make the relationship between these factors a little clearer. An immigrant skilled manual worker who has always been accustomed to address his British employer by the title of Mister arrives in Australia having a specific prior attitude to the way in which employers should be addressed. But in Australia he finds that the social norm is to call the boss by his Christian name. If the immigrant has a general need for social acceptance then he may be motivated to change his attitude to conform to the Australian norm. Stated in its most general form this process can be expressed in fairly familiar terms—the operation of a social norm upon an individual's prior attitude in the presence of a suitable need produces a modification of the attitude. The crucial phrase is, of course, 'in the presence of a suitable need'. Unless the immigrant is sufficiently motivated, he may decide to maintain his original British attitude in defiance of the Australian norm. Predisposition to change as defined by Eisenstadt (1) would appear to be a general social attitude of importance in clarifying this problem of motivation. However, it is possible to obtain some understanding of the assimilation process merely by discovering some of the initial differences in social norms of British immigrants and of comparable Australians and then measuring the degree of change in the norms of the British immigrant group after varying periods of residence within the Australian community. These changes can then be related to other relevant variables and a more detailed picture of the assimilation process gradually built up.

So far assimilation has been considered entirely as a matter of the acquisition by the minority group of the values and attitudes of the majority group, but it is of course possible that the interaction of the two groups will produce changes in the majority group as well. A valuable discussion on the effects of interaction in relation to immigrant groups is given by Taft (3). One of the most important changes likely to be brought about in the resident group is in their attitudes to the immigrants themselves. As the numbers of immigrants entering a country increase, the attitude to immigration may tend to shift from one of complete acceptance to one of complete rejection depending on the amount of economic, social, or political threat that the immigrants have for the resident population. As Oeser and Hammond (2) point out in their volume on Australian social life, despite the present industrial prosperity skilled and semi-skilled Australians tend to experience the arrival of British immigrants as well as of the foreign born as a potential threat. Clearly any attitudes of this kind will have their effect on British immigrants who encounter them, and under critical economic conditions intergroup tensions could easily develop that might be expected to slow down the process of assimilation. The attitude of Australians to British immigrants, then, constitutes an important part of the objective environment in which the immigrant finds himself.

B. STAGES IN ASSIMILATION

When the British immigrant arrives in Australia he experiences a certain amount of social and personal disorganization. As already noted his established attitudes do not always serve adequately in defining many of the new and different social situations that he meets. Under the kind of conditions discussed in the last section, a gradual restructuring of the immigrant's frame of reference to fit more closely to the Australian norms may be expected to take place. However the changes will not be the same for all people. Different attitudes will change at different rates and at different levels of awareness. For some the changes may be rapid, while for others the changes may be almost negligible or even in the direction of an intensification of prior British attitudes. From this it will be clear that the stages in assimilation to be suggested are only intended as 'ideal types'. They make it possible in a broad way to divide up the assimilation process, but no more than this is intended. The three suggested stages are as follows: (i) Isolation, (ii) Accommodation, (iii) Identification.

(i) The first stage is that of *Isolation*. At any time in the assimilation process, but particularly during the early period, there may develop a resistance to change and an intensification of British attitudes. As the wife of one British immigrant described it, 'Some situations bring out the English in me.' By this she meant that as a result of her present marginal position as an immigrant, in which she was physically in one country but had her thoughts and feelings invested for much of the time in another, the assimilation process had temporarily broken down and she had reverted to a typically English response. If this kind of event occurs frequently and becomes the predominant mode of responding to the Australian situation the immigrant may be said to be at the stage of *Isolation*. In summary an individual who is at this stage can be characterized as one who remains aloof from the resident population and who in every way tries to cultivate his traditional way of life. In so far as he is forced into contact with the resident group he attempts to impose his values, beliefs, and attitudes upon them by constant reference to his homeland, and the way in which 'things were done' there.

(ii) The next suggested stage is that of *Accommodation*. This is the stage that is most likely to be a fully conscious process. Typically the individual makes a deliberate and conscious attempt to modify certain obvious and external features of his behaviour. Even before his English trilby wears out, for example, he will probably buy an Australian hat with its noticeably wider brim. He may begin to take advantage of the different varieties of food and drink available in his new country, and in Western Australia he will quickly learn to ask for a 'schooner' instead of a pint. All these superficial changes will not usually involve any deeplying attitudes. To summarize the characteristics of the individual at this stage it can be said that he has lost the outward marks of his homeland and conforms in most ways, in the conventions of dress, food, and social formalities, to the prevailing mode of his new country.

(iii) The third and last stage to be suggested is that of *Identification*. The majority of immigrants find themselves participating to a greater or lesser extent in activities that bring them in contact with Australians. This typically occurs at work, but may equally well take place in social groups, church groups, sports clubs, or at more informal gatherings. As a result of increased participation with the new community, the immigrant may be led on beyond mere accommodation to what is viewed as the last stage in the assimilation process, at least for the adult immigrant.

This stage may be summarized by saying that the individual tends to 'throw in his lot' with his new country and to use 'our' and 'we' with reference to Australia rather than his homeland.

As was noted earlier these three concepts do not refer to all-or-none developmental stages. An immigrant may at any one time be isolated with regard to some things, accommodated with regard to others, and identified with regard to still further aspects of Australian life. It is one of the functions of future research to establish these differences more clearly.

III. AN ASSIMILATION RESEARCH PROJECT²

So far the process of assimilation has been discussed only in general terms; it is the purpose of the remainder of this paper to describe in more detail a particular research project, with the aim of outlining a method of approach and reporting on some very limited findings that resulted from its preliminary application.

A. AIM

The primary aim of this project was to discover some of the initial differences in social norms that distinguish British immigrants from a comparable group of Australians; then, to measure any changes taking place in the British norms after varying periods of residence in Australia. As a longitudinal study was impracticable, three groups of British immigrants who had been resident in Western Australia for different periods were selected. The members of Group I had all been in Australia for from one to eleven weeks at the time of interviewing. Those in Group II had been resident for exactly seven months, and those in Group III for exactly twelve months. To obtain the initially discriminating norms the responses of the British Group I were compared with those of a comparable group of Australians. Responses to any items that, first, showed a statistically significant difference between these two groups and, second, gave an indication of polarization, were accepted as discriminating norms. Polarization as used here merely meant that the two percentages that differed in a statistically significant way should also have some more definite psychological significance. If for example 94 per cent of the British Group I agree with an item and 54 per cent of the Australian Group agree with it the difference is highly significant statistically ($N=17$) but not so that the norms held by the two groups are in any way opposed but only that they differ in degree. If however 79 per cent of the British Group I agree with an item and only 39 per cent of the Australian Group agree with it then it does suggest that the norms are opposed or polarized as well as being statistically different. Once these initially different norms have been established any statistically significant change observable in the seven-month and twelve-month groups could be interpreted as convergence or divergence toward or further away from the Australian norms.

One very special set of norms are those referring to language, and as Australia

2. Whereas the account of this project given here is primarily concerned with *Attitude Change* in small groups of British immigrants, it is hoped to give a more detailed account of some of the characteristics of satisfied immigrants (*Accommodation Stage*) contrasted with those of dissatisfied immigrants (*Isolation Stage*) in a future paper.

has a very distinctive slang which is in common use at the present time, an attempt was also made to measure changes in the active and passive vocabulary of the British immigrants.

Next, if changes in subscription to Australian norms do take place, it might be expected on *a priori* grounds that the degree of participation within the Australian community would be an important variable to investigate and if possible to measure and relate to changes in subscription to Australian norms.

Among the other variables that were studied there were three that should be mentioned. The first was concerned with overall attitude to Australia; the second, with the proportion of immigrants in a group wishing to return to Britain; and the third with the degree to which members of each group had found their expectations of Australia borne out by their experiences. Each of these three variables involved a measure of the immigrant's subjective feelings of satisfaction with his life in Australia and it was anticipated, though wrongly as it turned out, that changes in feelings of satisfaction would also parallel changes in subscription to Australian norms.

B. METHOD

(i) *The Samples*

In deciding on the methods to be used the chief factor was the availability of suitable groups of British immigrants. The three groups that were finally selected came for the most part from a Commonwealth Hostel in Western Australia. There were 17 immigrants in each group. A Control Group of 25 Australians was also obtained. All four groups were male, white, married, skilled manual workers, with a modal age within the class interval 35 to 39 years. Apart from the small size there were several other features about these groups which should be mentioned at this stage to avoid any unwarranted generalizations being made from the results. The first and most important is that the lives of British immigrants while residents of a hostel tend to reinforce British attitudes and outlook, as a result of the continual interaction of the immigrants among themselves. This 'Little Britain' atmosphere almost certainly retards the process of assimilation, and therefore makes these groups highly selected samples of the total immigrant population. It should also be noted that the Australian Control Group suffered from a type of selective bias. As it was not possible to obtain a random sample it was necessary to use volunteers from different organizations and these of course may not have been representative of West Australian skilled manual workers in general.

(ii) *The Techniques*

The composition of the groups being decided upon, the next task was to select the most suitable methods of gathering the required data. Four self-administered questionnaires were constructed and these were used as the primary source of all the results reported here, though interviews were had with most of the British sample in addition. All the data were obtained between February and May 1953.

(a) *The Opinion Survey.* The basic questionnaire of the battery was the Opinion Survey, and its function was to show up differences in the norms held by the newly arrived British immigrants and the Australian Control Group. To do this a series of fifty statements was compiled. Almost all of them were based on hunches as to specific differences between Australian and British skilled manual workers. For example the statement, 'The ordinary family man has little chance of owning a car',

was included because it was thought that Australians would tend to disagree while the British group of new arrivals would tend to agree with it. (In fact no significant difference was found.) Included in the areas covered were statements relating to sport, authority, tradition, to the expression of emotion, to work, politics, and so on. Respondents were simply asked to say whether on the whole they agreed or on the whole disagreed with each statement.

(b) *The Word List*. The Word List was the second questionnaire included in the battery and this consisted of a total of 25 Australian words and phrases that were in common use among Australians at the time of the study. The multi-choice form was employed to assess the size of *passive vocabulary*—and in addition for each word or phrase of slang, the respondent was asked to underline 'Often', 'Sometimes', 'Never' to indicate the extent to which it formed part of his *active vocabulary*.

(c) *The Attitude to Australia Scale*. To obtain an overall measure of attitude towards Australia, a 20-item Likert-type attitude scale was constructed, having the usual five categories for degrees of agreement or disagreement.

(d) *The General Information Sheets*. Finally a general information sheet was constructed to obtain the background sociological data of age, marital status, family size, occupation, and religion for all the members of all four groups. Two forms of this General Information sheet were constructed, for though much of the information required was common to British and Australian groups, there was some information required that was different. For example, the British form was used to obtain the data on the immigrant's level of participation within the Australian community, and on his wishes with regard to staying in Australia or returning to Britain, and lastly on the degree to which he felt that his expectations about Australia had been fulfilled.

C. RESULTS

In analysing the results of this cross-sectional study, only group changes have been reported and no attempt has been made to indicate the individual patterns of response. On the basis of the differences in response to the statements on the Opinion survey of the newly arrived British Group and the Australian Control Group, nine were found to differentiate significantly. These were designated as the mean number of norms subscribed to by the members of each particular group. If, for example, all the members of a particular group had subscribed to all the Australian norms the Assimilation Index for that group would have been 9. A comparison of the three British groups showed that no significant difference existed between the first arrivals of Group I and those in Group II who had been in Australia for seven months; but that between Group I and the twelve-month immigrants of Group III there was a significant difference—one that was in the direction of convergence towards the Australian norms. Though the level of Assimilation is closer to that of the Australian Control Group it is still significantly different from it. It would have been of particular interest to see whether other groups of comparable British immigrants who had been in Australia for longer periods than twelve months showed greater convergence towards the maximum practical assimilation level as set by the obtained Index of the Australian Control Group, but this will have to await further research. An examination of the course

of change for some of the nine norms taken separately gives an indication of the class of beliefs which perhaps change most readily and those which appear to be most resistant to change. British Group II had only adopted three of the nine Australian norms and at the end of twelve months British Group III had only adopted five, so that there were four Australian norms which were at no time subscribed to by any British group throughout the twelve-month period of the study. The first of these, Item 3, reads, 'It is sensible for parents to allow boys to go to school barefoot in the summer months.' This item had been classified as a local West Australian custom and it was anticipated that within the first year immigrant parents would have grown used to the new climatic conditions and would have accepted this type of behaviour for their children. However it was not a belief to be adopted by a significant proportion of any group. One possible reason for this might be an association of bare feet with low status, an association that would perhaps be justified by their previous experience in Britain, but that would not in fact be justified in Australia. Item 24 was concerned with attitudes towards commercial broadcasting; it reads, 'Commercial broadcasting makes for better programmes.' All British groups disagreed with this statement and there was no suggestion even of a trend in the direction of the Australian norm at twelve months. Item 25 reads, 'Soccer is the most interesting team game to watch.' As might perhaps have been expected this item showed the greatest and most consistent differences between all British groups and the Australian Control Group. The Australian norm is, of course, to disagree with the assertion. The last of the Australian norms that had no apparent effect on any of the British groups was embodied in Item 48, which reads, 'On no account should women be allowed in Public Bars.' Whereas the Australians tended to agree with this statement the British did not.

In interpreting the significance of these four resistant norms, the first thing one notices is that they appear to have more direct relevance to the day-to-day interests and activities of the British immigrants. To make changes in beliefs that are so closely related to longstanding habits of life in Britain is, as might be expected, a very much more difficult and unwelcome prospect than to make changes in less habit-bound regions of one's life. A further possibility that should not be overlooked is that there may have been no social pressure from within the Australian community that would make change in these areas either necessary or even advantageous to the immigrants, but from observation this latter explanation is unlikely. This raises an interesting question, which can be touched on only briefly. It may be true, for example, that in general Australians want all immigrants, including the British, to become Australianized, but there are probably some areas of behaviour where change in the direction of the Australian norm is demanded more imperatively than in others, and a problem for research is to discover which they are. Where change in beliefs did take place it was usually in an area where the British immigrant might reasonably be expected to have less personal involvement. For example Item 47 reads, 'Mass-produced goods are seldom as good as those made by hand.' The opposite of this view constitutes the Australian norm, but whereas the first arrivals and even the seven-month group agree with this statement, the twelve-month group have converged so far towards the Australian norm as to be indistinguishable from the Australian Control Group. The interpretation of the observed changes in beliefs associated with more abstract norms such as this one is rather difficult to make. It might simply be that the statement is perceived as having more truth in it within the Australian setting but that it takes almost twelve

months for comparisons to be made in terms of Australia rather than in terms of Britain.

To turn now to the growth in size of passive vocabulary of Australian words and phrases it was found that this followed the same kind of pattern as changes in the Assimilation Index. Between Group I and Group II the difference in size was not significant, but a significant increase in size took place between Group II and Group III. Only five of the twenty-five members of the Australian Control Group failed to return the maximum score on Passive Vocabulary. The mean for the Control Group was 24.6 out of a possible 25 and the difference from British Group III who had a mean of 17.6 was highly significant.

On active vocabulary there were no significant differences between any of the British groups. The words most commonly reported included the following: off-sider, cockie, bonzer, to be crook, strides, to make a blue, and deener. These words and phrases correspond fairly well with those used most frequently by the Australian Control Group.

These changes in the degree to which different kinds of Australian norms are subscribed to have taken place with increased length of residence in Australia. However, it is obviously not the length of residence as such that is important, but the opportunity that increased length of residence gives for increased contact with Australians and for greater participation within the Australian community. It was therefore hoped that the measure of participation employed would reflect the changes in Assimilation Level and in Passive Vocabulary. Unfortunately this was not so, largely because of its insensitivity to the minor contacts of everyday life. The Participation Index measured what might be called 'Deliberate Participation' in which the immigrant was involved in sports clubs or church organizations where most of the members were Australian. It did not measure the amount of 'Incidental Participation', which would result from interaction with workmates on the job or casual meetings with Australians in the pub or at the bus stop. It is probable that these incidental contacts plus the effects of local radio broadcasts and newspapers would be sufficient to bring about the changes in Assimilation Level and in Passive Vocabulary that have been noted.

The last three variables that require discussion are those which were concerned with the immigrant's subjective feelings of satisfaction with his life in Australia: first, overall attitude to Australia, second, the proportion of a group wishing to return to Britain, and third, the degree to which the members of a particular group felt that their expectations of Australia had been borne out by their experiences. A general examination of the changes in these three variables suggests the following trend. The newly arrived immigrants had a highly favourable attitude to Australia, as high as that which the Australians had themselves. However, the seven-month group of British immigrants had significantly less favourable attitudes and, at twelve months, attitudes were still at the same low level of favourability.

The newly arrived group reported that most things about Australia were as they expected them to be. By the seventh month significantly fewer immigrants reported that their expectations had been borne out. At twelve months a slight rise occurred in the numbers reporting that their expectations had been borne out, though this was not a significant one. Of those wishing to return to Britain if the opportunity offered there were 41 per cent (7) in Group II compared to only 6 per cent (1) in Group I, and 24 per cent (4) in Group III. (The differences between Group I and Group II and Group I and Group III were statistically significant.) From the changes

in these three variables it seems that the greatest despondency and feeling of dissatisfaction occur among the members of the seven-month group, and though a slight improvement takes place at twelve months, it is not a significant one.

When this trend is compared with the one noted for assimilation of Australian norms, there is an indication that the assimilation process is one that may continue to some extent independently of the degree of satisfaction that the immigrant experiences in Australia.

Among the many research problems to which answers are needed, is the task of discovering what happens to the members of such groups later—after 2, 3, 5, 10, and 15 or more years in Australia. In what ways have they alike become Australian and in what ways have they still retained initial differences? Do they experience recurrent outbreaks of homesickness or do the majority become completely identified with all aspects of Australian life?

D. CONCLUSION

In conclusion it is necessary to emphasize once again that the results reported in this research are based upon small samples studied under a special set of conditions, and obviously it is not possible to generalize to other groups of British immigrants living in other parts of Australia under different conditions. What can perhaps be said, however, is that in these samples there was no evidence to support the view sometimes held, that when a person goes to another country having the same language and the same primary institutions as the one he has left behind, the assimilation process is usually complete in most essentials within the first year after his arrival. Further research on the processes discussed in this study seems to be desirable, using other groups of British immigrants and studying them for longer periods of time under different conditions of life in Australia.

IV. SUMMARY

It has been the purpose of this paper to discuss some of the theoretical aspects of the assimilation process and to illustrate part of this discussion by presenting some of the results of a small-scale research project on the assimilation of British immigrants in Western Australia.

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BIOGRAPHICAL NOTE

ALAN RICHARDSON was born in 1923 and emigrated to Australia in 1948. He is at present a lecturer in the Department of Psychology at the University of Western Australia. From 1953 to 1956 he was an Assistant Lecturer in Psychology at Bedford College, University of London, where he took his Ph.D. in 1956. Dr. Richardson's major field of interest is in the psychology of emigration and immigration.

Mutual Expectations of Patients and Therapists in Individual Treatment¹

ERIKA CHANCE²

A. THE PROBLEM

THE relation between patient and therapist has long been considered an important part of psychotherapy. In this report we plan to summarize evidence that early in treatment this relation is based on a pattern of expectations and attitudes about the self and the other which may well affect the progress of our patients and our own capacity to learn from them.

Such evidence is based on characteristic patterns of interpersonal experience attributed by the patient to the therapist, and vice versa, as well as on discrepancies between the therapist's anticipations concerning interpersonal experiences characterizing the patient and the patient's actual performance.

B. THE RESEARCH SETTING

The research setting for this study was the Children's and Adolescents' Unit of the Child Study Center, Institute of the Pennsylvania Hospital in Philadelphia. It provides direct, intensive out-patient treatment for children and adolescents aged from six to eighteen years, who are referred because of behavior and personality problems. During the initial evaluation period, a social worker sees the child's mother for one to three sessions and the father for at least one session, if the father is in the picture. A children's psychiatrist sees the child in two sessions, during one of which he performs a psychiatric physical examination to gain first-hand impressions of the child's physical condition, his body image, knowledge of sex differences, etc. A psychologist tests each child. The diagnostic studies end with a staff planning conference. Subsequently the integration conference, with both parents and the staff team participating, takes place. If the staff believes the child can be helped, and if the parents as well as the child appear ready for therapy, the case is accepted for treatment. Usually the child and his mother are seen once a week for

1. In this report we will confine ourselves to a description of changes in these areas from the third to the sixteenth treatment session. A later report will present a survey of changes during brief psychotherapy. The project of which this study is a part was conducted under grant M-830 from the National Institute of Mental Health, U.S.P.H. Service. The collection of research data and case material was made possible through the cooperation of the clinical staff of the Child Study Center, under the direction of Norman Nixon, M.D. We are greatly indebted to Dr. Frederic M. Lord, Educational Testing Service, Princeton, New Jersey, for help and advice in the quantitative analysis of the data. Our particular gratitude goes to the therapists participating. This paper is a follow-up report on a more detailed study of material for the third treatment session entitled 'Some Interpersonal Characteristics of Individual Treatment' (3).
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an indefinite period (the average number of treatment sessions is somewhere between 20 and 30 since the emphasis is on relatively brief psychotherapy). The father is also included in individual and/or group sessions whenever this seems feasible. In selected cases, both parents are seen together in joint therapeutic sessions.

C. THE RESEARCH SUBJECTS

Our subjects were 24 mothers attending the clinic for individual therapy and their six women therapists, who saw them once a week. A detailed description of the mothers in our sample can be found in earlier papers (2, 3). The six women therapists (all were social workers) who saw the research patients represented a wide range in age, experience, and we assume, professional skill. The most experienced was a social worker in her sixties who had held many responsible positions and had acquaintance with the clinic since shortly after its inception seven years ago. The least experienced worker consistently considered in our study was a social worker student in her early twenties who at this clinic was experiencing her first field placement. We ranked the therapists on the basis of their professional experience and found that they could be divided into two groups. The three experienced therapists were all over thirty-five years of age and each had more than seven years of post-graduate experience. The three inexperienced therapists ranged in age from twenty to twenty-six years and had between them no more than one year of post-graduate experience.

The assignment of patients to therapists certainly did not take place on a random basis. Attempts to explore the factors determining assignment elicited such varied responses that this problem was finally judged suitable only for a separate future research project.

D. THE RESEARCH PROCEDURES

The research procedures were as follows: after the second treatment session, the therapist was asked to anticipate her patient's verbalizations about the self in the impending third treatment session and to approximate this estimate by a forced-choice card sort, here called the Current Status sort. (See (3) for instructions and procedures.) The third treatment session, which was electrically recorded (a procedure to which most patients agreed quite readily), followed. It was assumed that given a good relation with the therapist each mother would feel free to describe herself, her problems, and her conflicts in these treatment sessions. In order to make interview data reasonably comparable, therapists were asked to adhere as much as possible to an outline designed to elicit verbalizations concerning the individual's functioning in a number of significant life areas described elsewhere (2). Immediately after the third treatment session each mother was asked by the investigator to describe herself and her therapist by means of the same forced-choice card sort which had been used by the therapist. At the conclusion of the session, each therapist described by sort the patient's verbalizations about the self predicted for the sixteenth treatment session. This is called the Predictive Sort. The same procedure was adopted at the sixteenth treatment session, but on this occasion the therapist predicted for the thirtieth session.

In order to classify the products of patients and therapists we used the categories shown in *Table 1*. These permit description of each individual in terms of characteristic interpersonal experiences along four principal dimensions: the Positive Active, Positive Passive, Negative Active, and Negative Passive groups of categories.³ Scoring techniques and measures of reliability have been discussed elsewhere (2, 4).

TABLE 1 CATEGORIES OF INTERPERSONAL RELATIONS FOR ANALYSIS OF INTERVIEW MATERIAL AND CARD SORTS

<i>Negative Active Categories</i>	<i>Positive Active Categories</i>
Dictate, dominate, boss	Direct, lead, control kindly
Rebel, boast, show off	Teach, advise, inform
Reject, take away, compete	Give, interpret, help
Threaten, mock, punish	Support, sympathize, pity
Disapprove, attack, condemn	Approve, praise, love
<i>Negative Passive Relationships</i>	<i>Positive Passive Relationships</i>
Passively critical, unappreciative, resentful	Loves to be praised, appreciates, loves to be liked
Complain, nag, resist passively	Cooperate, conciliate, agree
Distrust, demand, accuse	Trust, ask help, depend
Apologetic, self-critical, retreating	Admire, ask opinion, ask advice
Submit, obey a feared authority, cowed into obedience	Conform, like to do as others do, obedient

In order to obtain an estimate concerning the cultural values that might be attached to the 20 categories shown in *Table 1*, the therapists were asked to rank-order the categories according to 'how acceptable they might be to adult patients attending the clinic'. The agreement between the rankings was so high that the ratings were combined into what we shall here call the Acceptability Ranking.

FINDINGS⁴

1. CHARACTERISTICS ATTRIBUTED TO THE THERAPIST BY THE PATIENT

Each of the mothers had been asked to describe her therapist by means of a forced-choice card sort immediately after the third and the sixteenth treatment sessions. That this was a difficult task was apparent from comments made by several patients when they protested: 'I don't know her', 'How could I tell what she is really like?', etc. Some patients labored as long as 40 minutes over the task of describing their therapist. Comparison of the mean category scores allotted to each therapist at T3 and at T16 yielded six rank-difference correlations (Tau) each based on N=20 categories. These ranged from .64 to .93 and uniformly showed significance beyond the .01 level. We inferred that the patients' description of their therapists showed moderate to high stability. We expected that the patients would tend, at the third treatment session, to produce a stereotyped description of the therapists and that this stereotype would describe the therapist entirely in terms

3. This method of classification is a modification of the system devised by Freedman *et al.* (4).
4. Statistical material together with a detailed discussion of methodology can be found in (3).

of 'acceptable' characteristics. These hypotheses were tested by computing rank-difference correlations between the Mean scores allotted to each therapist by her patients and the Acceptability Ranking.

TABLE 2 SIMILARITY BETWEEN THE ACCEPTABILITY RANKING AND THE PATIENTS' DESCRIPTION OF THEIR THERAPISTS IN TERMS OF THE 20 CATEGORIES OF INTERPERSONAL EXPERIENCE AT T3 AND AT T16*

<i>Experienced Therapists</i>	<i>Tau</i>		<i>Inexperienced Therapists</i>	<i>Tau</i>	
	T3	T16		T3	T16
<i>A</i>	.76**	.72**	<i>D</i>	.67**	.63**
<i>B</i>	.79**	.73**	<i>E</i>	.64**	.63**
<i>C</i>	.58**	.44**	<i>F</i>	.86**	.64**

** $p < .01$

* Correlations were computed by Tau based on the mean of the Category Scores allotted to each therapist by the patients in her case load.

Reference to Table 2 shows that at T3 correlations with the Acceptability Ranking ranged from .58 to .86. This lends support to the hypothesis that at the third treatment session therapists tend to be described in terms of the Acceptability Ranking. While the patients continued to see their therapists in fairly acceptable terms at T16, there were indications of a less close relationship between the Acceptability Ranking and description of the therapist at this second time point. The correlations at T16 are all smaller than those obtained for T3. They range from .44 to .73. In summary our expectations were substantiated. At T3 patients tended to characterize their therapists in terms of highly acceptable interpersonal experiences and it was apparent that despite quite marked differences in the age and professional experience of the 6 therapists they appeared to be equally acceptable to their patients. The mothers described their therapists characteristically as people who teach, advise, give help and support, and praise others. Categories describing hostile relations were used but rarely and then chiefly for descriptions of competitive, passively critical, or self-critical interpersonal experiences. This pattern led us to think of the patients' description of their therapist at T3 as representing a tendency to idealize the therapist that might well serve the patient's need on the one hand for a model and, on the other, to deny more critical attitudes toward the therapist. At the time of T16 there is still evidence of this tendency to idealize, but it is less marked.

In an earlier study (2) we had obtained evidence that the patient's card-sort self-description tended to represent a social façade which contrasted with the pattern of interpersonal experiences derived from self-description in the confiding situation of treatment. A comparison of the patient's card-sort self-description with her description of the therapist describes the kind of relation with the therapist which the patient expected when defensive processes were mobilized. We found that at T3 patients described themselves as more passive than the therapist in both positive and negative interpersonal experiences. On the one hand they tend to describe themselves as more in need of liking to be liked, of being helped, etc., but on

the other hand also as more resentful, complaining, distrusting, withdrawing, and submissive than the therapists. Therapists are seen as more given to leading, teaching, helping than the self. These findings were significant beyond the .05 level by sign test.

We compared findings at the sixteenth treatment session with those obtained at T3 and found considerable stability in the patients' expectations about the treatment relation. In the area of Positive Active, Positive Passive, and Negative Passive relations patients who tended to assign themselves higher scores at T3 than to the therapist tended to continue to do so at T16. Those who at T3 assigned themselves lower scores than the therapist repeated this at T16. This tendency to show stability for the relative position of scores referring to the self and to the therapist was tested by sign test and found significant at the .01 level. No significant tendency to stability was found in the area of Negative Active relations.

These findings suggested that the patients' defensive expectations concerning the treatment relationship were in line with popular notions about the respective roles of therapist and patients. We questioned whether the establishment of such stable expectations was a function of the experience of the therapist. We therefore proceeded to examine those cases in which patients had failed to show stability in their expectations concerning the treatment relations. These were the cases in which a patient might at T3 assign herself a higher score than to the therapist, while at T16 she would reverse the relative position of scores and assign the higher score to the therapist (or vice versa). When all cases that showed change from T3 to T16 in the relative position of Positive Active and Positive Passive scores for the self and the therapist were examined, we found that a significant majority ($p < .05$) were patients treated by inexperienced therapists. In the areas dealing with hostile relations (Negative Active and Negative Passive) a total of 16 changes in position occurred. Eleven of these related to cases treated by experienced therapists.

In summary the patients' expectations concerning the treatment relationship showed considerable stability from the third to the sixteenth treatment session. Failure to show such stability in the area of positive relations could be attributed to the patients of inexperienced therapists. Failure to show stability of expectations in the area of hostile relations appears to be largely attributable to the patients of experienced therapists.

2. CHARACTERISTICS OF THE THERAPISTS' EXPECTATIONS CONCERNING THEIR PATIENTS

It will be recalled that just prior to the third and the sixteenth treatment sessions therapists attempted to anticipate the pattern of the patients' verbalization about themselves in the recorded treatment hour which followed. This was called the Current Status sort. Immediately after the recorded hour therapists describe their respective expectations concerning the patients' verbalizations for the sixteenth and the thirtieth treatment sessions.

Our first concern was to investigate trends in the therapist's Current Status sort, i.e. her immediate anticipation of the patient's verbalization. In order to test the stability of the therapist's anticipations from T3 to T16 we correlated the Current Status scores allotted to each of the 23 patients at T3 with those assigned to her at T16. The findings in Table 3 show that while all correlations were significant beyond the .05 level, their magnitude suggests that there is considerable

change in the score level assigned to any one patient relative to the whole group.

TABLE 3 CORRELATIONS (TAU) FOR CURRENT STATUS SCORES ALLOTTED TO N=23 PATIENTS AT T3 AND T16

<i>Interpersonal Dimensions</i>	<i>Tau</i>
<i>Positive Active Relations</i>	+·26 ($p < .04$)
<i>Positive Passive Relations</i>	+·39 ($p < .01$)
<i>Negative Active Relations</i>	+·38 ($p < .01$)
<i>Negative Passive Relations</i>	+·27 ($p < .03$)

Wilcoxon's paired replicate test was used to examine changes in score level for the group, but none of the four dimensions yielded significant findings.

We next examined the case load of each of the six therapists as regards the consistency with which the therapist allotted the same profile scores to each of her patients by means of Kendall's W, as shown in Table 4. Study of the score

TABLE 4 CONSISTENCY OF EACH THERAPIST'S ANTICIPATION OF HER PATIENT'S VERBALIZATIONS IN TERMS OF THE FOUR DIMENSIONS OF INTERPERSONAL EXPERIENCE MEASURED BY KENDALL'S W

<i>Experienced Therapists</i>	T3	W	T16	<i>Inexperienced Therapists</i>	T3	W	T16
A	·42		·20	D	·81**		·61**
B	·80**		·30	E	·42		·00
C	·18		·39	F	·43		·78**

** $p < .01$

profiles reveals marked differences between the therapists in the degree of consistency as well as in the type of pattern each expected for her case load. Thus, therapist B, a social worker with 12 years of post-graduate experience, at T3 tended to expect all her patients to show most concern with positive, particularly Positive Active, relations. At T16 this trend was no longer significant. Therapist D, on the other hand, who had one year of professional experience, allotted to all her patients profiles characterized by peaks in the Negative Passive and Positive Passive dimensions. Therapist D showed this tendency at T3 as well as at T16, though on the latter occasion it appeared less marked. Comparison of the profiles for T3 with those for T16 shows that therapists tend on the whole to generalize less across cases as therapy proceeds. Only the least experienced therapist shows an increase in consistency from T3 to T16 resulting in a $W = .78$, which is significant at the .01 level. Therapists at T3 as well as at T16 appear to share the same preferred score sequence. They consistently ($p < .01$) expect their patients to verbalize most about Positive Passive interpersonal experiences, such as liking to be liked, conciliating, trusting, depending, and conforming. The Negative Passive dimension ranked next highest. We therefore concluded that during the early phase of therapy,

therapists expect the patient to be preoccupied with passive experiences. This may well be related to the patient's own expectations of a more passive role, as we have already described.

3. THE THERAPISTS' ANTICIPATION OF THE MOTHERS' VERBALIZATIONS DURING THERAPY, AND THE MOTHERS' ACTUAL VERBALIZATIONS

In comparing the therapists' Current Status sort with scores derived from the mothers' verbalizations about themselves during treatment, we were not interested in obtaining a measure of how accurately the therapists were able to predict the patients' verbalizations. We have shown elsewhere (3) that correlations between the scores for the 20 categories which describe the mother's actual verbalizations during therapy and the therapist's Current Status sort were low and statistically not significant. From this we inferred that therapists were not able by means of the Current Status sort to describe the pattern of the mothers' preoccupation in the treatment session which followed the card sort.

In further examining systematic relations between the therapist's anticipation of the mothers' verbalizations at T3 and the mothers' actual preoccupation, we tested the hypothesis that the discrepancy found would correspond to certain stereotypes frequently used in clinical discussion about mothers in attendance at Child Guidance Clinics. The 20 category scores which therapists allotted each patient in the Current Status sort were arranged in rank order. Scores for the same categories describing each mother's verbalizations in the treatment session were also rank-ordered. We then examined in each case the discrepancy in rank obtained by any one category. The three greatest rank elevations in the Current Status relative to the patient's scores derived from her verbalizations in treatment were designated as indicating the therapist's overestimate of the patient's verbalizations. Similarly the three greatest rank reductions in the Current Status relative to the patient's treatment scores were used as criteria for the therapist's underestimate of the patient's verbalizations. Frequencies of these overestimates and underestimates for each of the 20 categories at T3 and at T16 are shown in *Table 5*. We found that therapists at T3 tend significantly to underestimate the patients' preoccupation with active expressions of affect, be it love or hate. This is in line with the stereotype about patients as predominantly passive people who suffer. Furthermore, therapists tended to overestimate the patient's preoccupation with two contrasting interpersonal experiences: the Positive Passive categories of trusting, depending, asking help, on the one hand, and the Negative Active categories of bossiness, rebellious, rejecting, and competitive experience, on the other. The overestimates in these areas might well be related to a frequently discussed clinical syndrome which describes the mother as an infantile dependent person who reacts against the demands of her role as a mother by bossiness, rebellion, and rejection.

The sixteenth treatment session showed some changes in the therapists' tendency to overestimate or underestimate their patients' preoccupation. The significant trend at T3 to underestimate the patients' preoccupations with giving help to others and with active expressions of love disappeared at T16. In the Positive Passive area the earlier tendency to overestimate the patient was maintained and possibly even strengthened at T16, in that three categories were significantly overestimated in contrast with the single overestimate of the patient's preoccupation with asking for help, trusting, and depending at T3. While there appeared to be no change in the Negative Action area, passive expressions of hostility seemed to

TABLE 5 FREQUENCIES OF OVERESTIMATION AND UNDERESTIMATION OF CATEGORIES OF INTERPERSONAL EXPERIENCE CHARACTERIZING THE THERAPIST'S ANTICIPATION OF THE PATIENTS' PREOCCUPATION IN 24 CASES

Category	T3		T16	
	Overestimate	Underestimate	Overestimate	Underestimate
<i>Lead</i>	3	1	2	5
<i>Teach</i>	3	5	3	7
<i>Give</i>	1	10*	3	2
<i>Support</i>	2	3	4	2
<i>Love</i>	0	9**	2	6
<i>Appreciate</i>	2	4	8	0**
<i>Cooperate</i>	2	7	1	6
<i>Trust</i>	8	0**	6	0*
<i>Admire</i>	5	2	10	2*
<i>Conform</i>	3	1	3	2
<i>Boss</i>	8	2	5	0
<i>Rebel</i>	6	1	4	0
<i>Compete</i>	6	0*	6	0
<i>Punish</i>	2	1	1	0
<i>Hate</i>	1	11*	0	18**
<i>Resent</i>	1	5	1	9*
<i>Complain</i>	3	3	0	3
<i>Distrust</i>	4	3	3	4
<i>Retreat</i>	1	4	3	5
<i>Submit</i>	11	0**	7	1

* $p < .05$

** $p < .01$ by sign test

elicit a different attitude from the therapists at T16. The earlier overestimate of the patients' preoccupation with submission to hostile forces was no longer significant, while there was a trend to underestimate the patients' preoccupation with feelings of resentment. In summary, changes in the patients' preoccupation with the therapists' anticipation of their patients' verbalizations and the patients' actual performance appeared to be directed towards seeing them less in terms of the earlier stereotype. The marked increase in overestimating the patients' preoccupation with liking to be liked and asking for advice may well be related to an increase, on the part of the therapists, of feelings for their patients as dependent and immature people who require affection and guidance.

4. PROGNOSIS FOR CONTINUED THERAPY

In order to investigate the therapists' expectations concerning the progress of their patients over the thirteen-week period following the third and the sixteenth sessions we compared the Current Status sort with the Prediction for the characteristics of the patients' verbalizations about themselves at the sixteenth and thirtieth treatment sessions. All correlations between the Current Status at T3 and the Predictions for T16 were statistically significant, indicating that the therapists expected currently high-scoring patients and low-scoring patients to retain their

positions relative to the group at T16. The only significant change expected in the pattern of the patients' verbalizations was a general increase in preoccupation with positive friendly experiences and a decrease in preoccupation with such experiences as resenting others, complaining, being distrustful, withdrawing, and submitting to hostile forces. We found that experienced and inexperienced therapists differed in the amount of change expected over a period of 13 weeks. The significant expectations of change quoted above were due to the 'optimism' of the inexperienced therapists at T3. When we compared the Current Status sort at T16 with the Prediction for T30 by means of Wilcoxon's paired replicate test, we found a general tendency to predict increase in preoccupation with Positive Passive interpersonal relations ($p < .05$). Comparisons for the other three areas of interpersonal relations failed to yield significant results. While at T3 the prognosis of inexperienced therapists had shown more marked optimism than that of experienced therapists, we found an opposite effect at T16. Inexperienced therapists predicted no significant change, while experienced therapists expected their patients at T30 to show less preoccupation with active expressions of hostility.

One further facet of the therapists' expectations concerning their patients' progress consists in the extent to which the patient's preoccupation might be judged acceptable to himself at various time points. Correlations between Current Status scores at T3 (and at T16) and the Acceptability Ranking were considered to represent a measure of the extent to which the therapists judged that the patients' verbalizations would show self-acceptance. Changes in the magnitude of the correlation would indicate changes in self-acceptance as judged by the therapist.

We had shown elsewhere (3) that at T3 therapists predicted greater self-acceptance for their patients at T16. On the surface this appears a plausible prediction in that increased self-acceptance is indeed one of the goals of psychotherapy. This proposition, when it is more closely examined, falls down on two counts: 1. If we assume that therapy aims at changing the patient's scale of values, then the patient's preoccupation presumably would show increased relation to a 'new' Acceptability Ranking, but not necessarily to that which characterizes the patient population in general. 2. If we assume that the first 16 weeks of psychotherapy are characterized by increased confidence on the patient's part in the therapist's capacity to accept him, we expect increased catharsis about unacceptable experiences and, therefore, less relation with the Acceptability Ranking.

The hypothesis that patients at T16 would actually verbalize less about acceptable experiences was tested elsewhere (2). The data showed some tendency in the expected direction. An independent test of this hypothesis was provided by comparing the Mean ($N=23$ mothers) Category Scores allotted to the mothers by the therapists' Current Status sort at T3 and at T16 with the Acceptability Ranking. The change in Tau ($N=20$ categories) from $-.35$ ($p < .02$) to $-.42$ ($p < .005$) gives some support to this hypothesis.

SUMMARY

In this study we examined the respective attitudes and expectations of patients and therapists in terms of statements and verbalizations concerning the interpersonal experiences that characterize the therapist in the eyes of the patient and the patient from the viewpoint of the therapist.

Research procedures which included a series of comparisons between the patients' and the therapists' products gave us the following results:

1. When patients described their therapists by card sort, we found:

(a) 'Stereotypy', in that they ignored such differences between therapists as might exist.

(b) 'Idealization', in that all therapists were described in terms of highly 'acceptable' characteristics at T3. This decreased at T16.

(c) A general trend in the relationship between the patients' self-/and therapist-description by card sort in which they assigned to themselves both friendly and hostile passive characteristics. Therapists were more frequently seen as obtaining higher scores on Active Positive relations such as leading, teaching, and helping, than the self. It is suggested that the patients' emphasis on their own passivity may be part of the phenomenon of 'resistance' as it appears early in therapy.

2. When therapists described their patients by means of a Current Status card sort giving their expectations about the patients' verbalizations, we found:

(a) A tendency on the therapists' part to see patients as typically passive (particularly characterized by positive dependency).

(b) A tendency for some therapists to show characteristic score sequences for their case load.

(c) Differences between therapists in the degree of consistency and the kind of profile they allotted to their patients.

(d) Indication that the majority of therapists generalized less about their case load at T16 than at T3.

3. In comparing the scores that patients obtained for self-description in treatment with the scores they were assigned by the therapists in their Current Status card sort we found:

(a) A lack of relationship between each patient's treatment scores and the scores which her therapist assigned her in the sort.

(b) That the therapists' description of the patients in the Current Status sort revealed a systematic shift in rank order relative to the rank of the patients' treatment scores. At T3 active expressions of affect were underestimated. The rank of the remaining categories of interpersonal experience was so allotted that the description of the patient approximated that of a frequently discussed clinical syndrome. At T16 the shift in rank order was less in line with this syndrome and gave more emphasis to the patients' dependency needs.

4. Concerning prognosis we found:

(a) That when the Current Status Evaluations were compared with the Prediction there was a general trend to predict increased preoccupation with positive relationships at both T3 and T16. While at T3 inexperienced therapists had shown greater optimism than experienced therapists, this situation was reversed at T16.

(b) A comparison of the therapist-derived estimate as to 'what might be acceptable to patients' with the therapists' Current Status sorts showed that they anticipated some decrease of self-acceptance in the patients' verbalizations at T16.

Because of the small number of cases in our sample and the relative absence of guide posts in this field of investigation, we considered our findings as tentative conclusions. The following projects would throw light on questions raised in this study:

1. A project relating to the patient's and the therapist's life experience with significant others to their perception of each other would contribute to an understanding of transference and counter-transference factors in the treatment relationship for each case.

2. The therapist's feeling that the patient can change in his pattern of preoccupation may be a factor of effecting actual change. A comparison of therapeutic movement for those cases in which larger changes in preoccupation were predicted and those for which only little change was expected should throw light on this factor.

3. In order to test whether the therapist's preoccupation with passivity in the patients is related specifically to the early stage of therapy, comparison with data for later phases of treatment should be made.

4. If the therapists' preoccupation with positive dependency in the mothers is a special characteristic of women therapists (or of social workers), then male therapists (or members of another profession in the clinical team) should show a different pattern of Current Status scores for the mothers who are their patients.

This project has raised many new questions in our minds. It is hoped that some of them will be answered in the course of data analysis for this sample at a later stage in therapy and that other workers in the field will test these and related hypotheses with a larger sample.

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BIOGRAPHICAL NOTE

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Dr. Chance received her B.A. in Psychology at University College, London, in

1940. She was a Commonwealth Scholar in Psychiatric Social Work in training at Oxford, Cambridge, and London during 1942-3. In 1953 she obtained her Ph.D. in Psychology from Stanford University. Since 1953 she has been a candidate in Curriculum III of the Professional School, Institute of the Philadelphia Psycho-analytic Society.

The Joking Relationship in Industry

PAMELA BRADNEY

IT has become clear in the course of some recent research in a London department store that it may be possible to apply usefully in industry certain concepts that have emerged in the study of primitive societies. Although in recent industrial research an attempt is often made to apply concepts and methods of social anthropology, the result of this is never recognizably anthropological. It is generally just a case of using big, meaningless terms like 'culture' in a way that adds nothing to the understanding or the analysis (cf. 1). In this study of a store, however, two specific forms of relationship, widely investigated by anthropologists, have been found helpful in understanding the work group situation: first, the joking relationship; second, the relationship between members of a family. It is with joking in the store that I wish to deal here and with its quasi-familial relationships in a later paper.

I undertook the research in the store in order to write a thesis for a degree,¹ and the management very kindly allowed me to join the staff for this purpose. I spent a year in the store and, throughout, my status and pay² were those of a graduate trainee, which meant that although I worked mainly as an ordinary sales assistant, I had the advantage of being moved into a different department from time to time as a necessary part of my training. I took no notes during working hours, and in most cases the staff did not know about the research. However, whether they knew or not made little difference to my being accepted as a member of the team as soon as it was clear that I was doing a normal job in the store.

In order to show clearly the importance of the part played by joking in the group studied—and by 'joking' I mean the jovial, hail-fellow-well-met, and often teasing way in which the employees tend to address each other at work—it is necessary to describe briefly certain aspects of the formal structure of the store with which this informal behaviour appears to have an intimate connection.

THE GENERAL SETTING

The store is one of the largest of the department stores, selling a wide variety of merchandise from haberdashery to all types of household equipment. With the exception of such sections as Men's Wear, Sports Equipment, and Furniture, it is staffed mainly by women. The immediate group under study is that of the individual sales department, selling a particular type of commodity and occupying a limited floor area within the store building. At the head of each such group is a 'buyer' who runs the department and is ultimately responsible both for the success of its merchandise and the efficiency of its members. An 'underbuyer' assists the buyer and is responsible for the day-to-day running of the department and the

1. Submitted as a D.Phil. thesis to the Board of Anthropology and Geography, Oxford, 1955, under the title 'The Status System of a Modern Store'.

2. I had no other financial support for the research.

direct control of the selling staff. The number of sales assistants varies according to the size of the department; the average is about seven or eight. Each has her own section of the counter or floor space on which to sell (allocated by the under-buyer), and a commission of $\frac{1}{2}$ per cent is paid on all sales in addition to a basic weekly wage. There are also usually one or two 'juniors' attached to the department, who are training to be sales assistants and act as messengers and light porters for the buyer and underbuyer.

For the sales assistant there are three main groups of external factors controlling her activities. These are the internal plan of the department and its relation to the store as an architectural unit; the various store procedures, primarily that of selling; and the staff hierarchy. In making a transaction with a customer an assistant has to know where to go in the particular departmental arrangement for the variety of goods she needs and the necessary wrapping materials, etc.; she has to sell the goods in accordance with the correct method of sale appropriate to the customer's wishes; and finally, she has to perform this operation while continually open to interruptions from co-workers who are her rivals. I shall describe each of these difficulties in more detail.

THE PLAN PROBLEM

In every store, space is a problem: how to find enough space to store the goods, yet keep them readily accessible, at the same time leaving enough room to display them and show them to the customer. The customer must also have sufficient space to move about freely. As a result of this, in striking the necessary 'happy medium' in a department, according to its particular requirements, the sales staff are often left only just enough room to move behind a counter. On the other hand, in the 'open' departments, where for instance clothing is displayed on racks, the necessity for putting stock room, packing room, and pay desk well out of the way of display space, usually entails a very long walk for the assistant in the course of each transaction she makes. It is a problem either of not having quite enough room to move or of having too great a distance to cover and considerable physical inconvenience is caused in both cases. On the 'counters' this is increased by hindrance in the form of blockades unavoidably made by other members of the department when they open a drawer in a narrow gangway or stand talking in the only opening leading to the other side of the department. In the 'open' sections, where there are great distances to be covered, the discomfort is increased by not being able to find other members of the department when contact with them becomes necessary.

Further layout difficulties occur; first, as a result of not knowing where particular merchandise, etc., is kept and of having to look for it; second, as a result of not knowing the departmental and store layout well enough to be able to answer quickly and easily inquiries from both customers and staff regarding these.

COMPLICATIONS OF THE SALES PROCEDURE

The sales procedure is not the only store procedure that the sales assistant has to master, but it is the one with which she is concerned in performing her main

function in the organization and it is highly complicated. The store studied has four main types of sales bill—'cash-take', 'cash-send', 'enter-take', 'enter-send'—with differently coloured bills used for 'cash' and 'enter'. Each of these bills is completed in a different way and there are further complications in the case of cheques, Export cards (enabling the purchaser to get purchase-tax reduction), Purchase Assembly cards (when the customer buys a number of goods from different departments and pays for them all together), C.O.D. transactions, and hire-purchase transactions. Another procedure must be followed in the case of refunds, and many labels and stickers, all in frequent use, are to be obtained at the cashier's desk.³

It is on the wishes and requirements of the customer that the type of bill to be made out depends. Each method of sale must be followed precisely, often while continuing a conversation with the customer. Many of the bills require an authorizing signature from either the buyer or underbuyer, or sanction by means of a telephone call to the Sanction Office. Most transactions necessitate a walk to the cashier's desk.

DEMANDS OF THE STAFF HIERARCHY

The third and most important of the controlling circumstances that affect the assistant are the contacts made with her by other members of the work group. These contacts are of two kinds: first, those made with her by either the buyer or underbuyer; second, those made by her co-workers. The buyer may at any time ask to see an assistant or get her to do a special job, and the underbuyer, in carrying out her daily organization of staff, arranging meal breaks, etc., and dealing with queries from both staff and customers as they arise, frequently has to interrupt an assistant to tell her, for example, that a special order has arrived and may be dispatched or to ask her how a particular 'line' is selling. More frequent interruptions, however, come from the second type of contact—that with co-workers. There is so much to learn and know about where things are situated in both the department and the store as a whole, so much to know about the sales procedure, etc., that working side by side as the assistants do, it is inevitable that they refer to each other from time to time about these matters, often interrupting a sale in doing so. Interruptions also come from members of other departments.

The three types of difficulty described are, of course, simple and natural enough. They are only to be expected in an organization like a store and most likely may be seen to exist in nearly all human activity. However, the sales assistant's activity is one that requires a special effort of concentration and for her the time factor is of considerable importance. This is because she is working on a commission basis, which means the quicker she can apply herself to finding out a customer's requirements, producing the goods from the department, and convincing the customer that these are just what she is looking for, the quicker the sale is completed, the commission on it assured, and the assistant ready for another sale. Time is money in this business and by making the most of it an assistant not only satisfies a personal goal—to maximize her earnings—but also consolidates her position in the

3. There are no less than 43 different items of stationery kept by each cashier for use by the assistants in selling.

eyes of the buyer and underbuyer and achieves considerable prestige in the eyes of other assistants.

Seen in this light it is clear that in each case the difficulties described are a direct hindrance to the rapid completion of a sale. In each case the first two types of difficulty are inevitable: whatever the sale, it has to be made in the particular geographical setting of the department and it has to be made in accordance with one of the prescribed procedures. The third type of difficulty, that of interruption by other members of the staff is not, however, inevitable, and in fact sales do occur without such interruptions. It is usually when the department becomes busy and all the assistants are serving that demands and questions become most frequent and coming as they do, particularly at times like this, they are a sort of 'straw to break the camel's back' for the assistant.

It is at this point, then, when an interruption comes from another member of staff to hinder a sale and waste valuable selling time that one would expect to find friction in the department. One would expect to find the relationship between the assistants on such occasions tense and offhand, with a tendency to quick temper and harsh language. But what *do* we find? We find a 'joking relationship'.

To take an example: a window-dresser, on approaching an assistant during a busy period to ask her to get out some stock for the windows, said, in a cheeky joking manner, 'I've come to bother my favourite blonde again!' and she replied, jokingly and with only a pretence of grievance, 'Why do you have to pick on me? What've I done?' In any other context the sentences spoken might have been regarded as impertinent or angry, but because of the tone of voice used and the understanding between the members concerned, it was a joke. They both smiled and the assistant was soon attending to the window-dresser's requirements.

THE JOKING RELATIONSHIP IN PRIMITIVE SOCIETIES

Before considering in greater detail the function in store life of this joking relationship, and whether in fact it may be regarded as a joking relationship in any way akin to that usually connoted by the terms, let us consider Radcliffe-Brown's definition of joking relationships and the part he considered them to play in primitive societies.

Radcliffe-Brown defined the 'joking relationship' as 'a relation between two persons in which one is by custom permitted and in some instances required, to tease or make fun of the other, who, in turn, is required to take no offence' (2, p. 90). He wrote: 'The joking relationship is a peculiar combination of friendliness and antagonism. The behaviour is such that in any other social context it would express and arouse hostility, but it is not meant seriously and must not be taken seriously. There is a pretence of hostility and a real friendliness. To put it another way,—the relation is one of permitted disrespect.' Radcliffe-Brown also distinguished between 'symmetrical' and 'asymmetrical' relationships: in the first, 'each of two persons teases or makes fun of the other'; and in the second 'A jokes at the expense of B and B accepts the teasing good-humouredly but without retaliating; or A teases B as much as he pleases and B in return teases A only a little'. Radcliffe-Brown stated that in some instances the joking or teasing is only verbal, while in others it includes horse-play; in some the joking includes elements of obscenity,

The main function which the joking relation seems to have in primitive societies is to maintain a satisfactory relationship between persons and parties who as a result of their particular social ties might be inclined to feel some hostility towards each other but between whom it is important, from the society's point of view, that the relationship should not become strained. For instance, as Radcliffe-Brown put it, 'in the relation between a man and his wife's family there is both social disjunction and social conjunction—the man is an outsider to his wife's family, and vice versa, yet after marriage there is a continuance of a wife's relations with her family which has a continued interest in her and her children'. 'Social disjunction implies divergence of interests and therefore the possibility of conflict and hostility, while conjunction requires the avoidance of strife.' 'Any serious hostility is prevented by the playful antagonism of teasing and this in its regular repetition is a constant expression or reminder of that social disjunction which is one of the essential components of the relationship, while the social conjunction is maintained by the friendliness that takes no offence at insult.'

The joking relationship in the store does seem to be similar to that defined by Radcliffe-Brown, in regard to its function: there is clearly a divergence of interests among sales assistants, i.e. 'social disjunction', as a result of their formal relationship. Each wants to increase her own sales—to earn both a better living and the approval of her employer—and is in competition with the others to do this. There is also every likelihood of hostility and conflict between them when they interrupt and hinder each other just at a time when this interferes most with selling. Yet it is essential, for a number of reasons, that the relationship between assistants should not become strained. If this did happen, in the first place they might cease to help each other with their queries and work problems. They might even purposely get in each other's way or refuse to cooperate; customers would witness this hostile behaviour and the generally unpleasant atmosphere resulting might increase labour turnover. All this would undoubtedly mean a loss of sales which would be bad both for the organization as a whole and for the individual employee. The 'social conjunction' between the assistants—because they are working for the same organization, on the success of which their livelihood ultimately depends—makes essential the avoidance of strife in the department, and it is at the point where conflict is most likely to arise that the joking occurs.

The type and method of joking in the store are also similar to that found in primitive societies, although there is both a slightly wider variety of method and a very much wider variety of subject-matter than that mentioned by Radcliffe-Brown. Store joking is altogether less formalized than that of primitive societies. In the store, joking occurs not only between two persons, but also between one person and a group and sometimes even between two groups. It occurs both in contacts necessitated by the system and in personal contacts and may consist of either one of the following or a combination of these—a jovial manner of passing the time of day or commenting on the weather or some other matter of topical interest; mutual teasing about personal habits, appearance, love experience, morality, and, in particular, work and method of work; telling funny stories about members of the store and telling other funny stories in some way relevant to the subject of conversation. Unlike joking in primitive societies, this joking is not confined to teasing and being teased.

These different types of joking extend from the lower to the higher ranks of the organization in roughly the order in which they are listed above, i.e. there is a

tendency for lower ranks to adopt a jovial or teasing manner in their contacts and for higher ranks to tell funny stories. This may be due to the fact that members of higher rank spend more time in social contact with each other in the course of their work, whereas sales assistants do not have the opportunity to tell long stories while they are serving. All the subjects listed are used in carrying out the day-to-day work of the store, i.e. in the course of the social contacts this necessitates.

To take a few more examples: on a particularly busy afternoon when a porter went into a selling department to empty the waste bin, inevitably hindering for a moment or two the movements of the assistants inside the counter, he said in a jovial way, 'Gets more like Christmas every day, don't it?'

When a new girl appeared to be working overhard and taking her work too seriously, one of the old hands (to whom the newcomer had put yet another query to help her with a sale) said, 'You want to sell up the shop today, don't you?'—in a friendly joking manner even though it did conceal a reprimand.

Buyers and underbuyers are continually telling anecdotes in the course of their work, e.g. one story that frequently cropped up, particularly at underbuyer level, concerned the piano department, which had the reputation in the store studied of being moved around more frequently than any other department. The story was that when a customer asked (as customers always do) where she could find that department the assistant replied, 'If you'd be good enough to wait here, madam, it's sure to be passing by.'

From these examples it may be seen that the joke can be made either by the one likely to offend, by the one likely to be offended, or by any employee about an objective occurrence or situation generally recognized as likely to create considerable difficulties for those involved in it. The joking of assistants is mainly related to their own particular work problems, whereas the joking of buyers and others is concerned with their problems and covers a much wider field—taking in the whole store.

Horse-play in store joking is very rare. If it occurs at all it is only between juniors or young male assistants.⁴ However, both the symmetrical and asymmetrical type of joking relationship is to be found in the store, as in primitive societies, and seems in this case to bear a definite relation to status. In general, joking is established more quickly and easily between members of the same status either in the same or in different departments when they happen to come in contact, i.e. between juniors, between sales assistants, between one underbuyer and another, and so on. The assistant says to the liftman (who is of assistant status), 'How's my best boy-friend today?'

'I shall be all right now I've seen you!' he replies.

This exemplifies a typical symmetrical relationship. However, joking also occurs between members of *different* status. The joke may be made by a member of higher status in an attempt to disarm a subordinate member of any antagonism and maintain a good relationship. Joking may also be used in order to give a reprimand without offending—though these methods are not consciously understood by those using them. For example, one of the buyers, on seeing a junior carrying out her duties in a slow and lazy manner, said to her, 'Miss — [i.e. the junior herself] looks as if her heart's in her boots today! Don't you like work today, dear?' There is no reply made to a remark of this kind. On the other hand, members of low

4. It is also only between these members that any element of obscenity occurs in the joking.

status may sometimes purposely joke with members of higher status partly because it gives them a sense of bravado and partly perhaps because by means of it they are able to assume at least temporarily an equality of status with those whom they are addressing, e.g. juniors often attempt to joke with the sales assistants but the latter seldom joke back as it would be lowering to their dignity. A symmetrical relationship between members of different levels is established quite frequently where the relation is one of constant instruction and training or continuous giving and taking of orders, and a relationship established in this way is often maintained even after the parties concerned no longer have any direct contact in the business, i.e. it is exhibited in chance meetings. A relationship of this kind is very often found between underbuyers and juniors. It is the underbuyers who are responsible for training juniors and for organizing their work. In the course of this the juniors usually tease and joke with the underbuyer endlessly, and she for her part finds that a better relationship is maintained if she takes the joking in a good-humoured way and is ready to have a joke back at them. In general, the *symmetrical* type of joking relationship occurs most frequently, and such *asymmetrical* joking as does take place is usually aimed by superiors at subordinates.

Joking is usually learned by a newcomer after she has been in the store about three weeks and it takes about the same length of time for her to be accepted as a 'joker' by the rest of the department. It is a very uncomfortable period for her, and this may largely account for the fact that the biggest labour turnover in the store occurs during the first few weeks of employment. Definite sanctions exist and operate both to establish and to maintain the required joking, and brief mention will now be made of these in order to give some indication of what a newcomer suffers before she has learned the 'art'. This will also help to give some understanding of the actual function of the joking in store routine.

The store sanctions of the joking relationship and other aspects of the informal tradition operate quickly and effectively because the salesgirl knows that she has joined a group in which it is essential for her to conform if she is to earn her living. She is therefore sensitive to all types of sanction and seldom thinks of trying to distinguish between formal and informal sanctions. In the old days conformity with the demands of the formal side of the system would in fact have been enough, but nowadays the personnel officer always wants to know whether a newcomer is 'fitting in' with the rest of the department—although personnel staff are, of course, unaware that this 'fitting in' means conforming with a permanent informal tradition of the work group, one aspect of which is the joking relationship.

There are three main types of sanction that should be distinguished: first, 'formal' sanctions—by these are meant not only management rules but all actions and expressions of individuals and groups that are generally recognized as following a prescribed method and are used again and again. Second, 'informal' sanctions—these cover all those actions and expressions of individuals and groups that are not generally recognized as following a prescribed method and are often spontaneous although not necessarily so. Third—for want of a better term—'automatic' sanctions. These, unlike the first two types of sanction, do not involve expressions and actions indicating approval or disapproval, they merely serve to enforce the required behaviour by proving it successful, and vice versa. Examples of these will now be given.

As neither management nor staff are aware of the part played by the joking relationship it is not surprising to find little or no formal sanction of it. However,

a sort of formal sanction of the relationship, in which joking is also the method of sanction, does tend to develop in the individual department, e.g. one of the assistants said that in her department whenever someone was sent to help or to work there who was rather 'snobbish' and would not talk to them, they all made a point of joking at her continuously in a good-humoured way and she soon 'came off it'. The activity which this department adopted in making a newcomer take a hail-fellow-well-met attitude had thus become to some extent formalized.

Informal sanctioning of the joking relationship, both of a positive and of a negative type, occurs much more frequently. Employees often say the reason they like working in the store is that they have such fun in carrying out their routine jobs. They say they would not care to work in a particular department because its members 'take life much too seriously'. A member will often say how much she likes another member because the latter is 'always ready for a joke' and 'full of fun'. Those who joke readily are obviously very much more popular than those who do not. They are approached more often by other members. They elicit a more favourable reaction than others when they make an approach themselves and they are never seen to sit alone during their meal breaks. This informal sanctioning of the joking tradition is in fact extremely varied and complicated and can be observed not only in the form of verbal expressions and obvious avoidance behaviour but also in tone of voice, method of speech, and manner of approach. It should also be noted that in the course of operating these sanctions employees are not only training new members in the store way of life but are also giving themselves and each other a continuous refresher course in these ways.

Finally, the 'automatic' sanctions: these operate continuously every time a member either behaves in accordance with the tradition or does not behave in accordance with it. Once a member has acquired the knack of joking in the right sort of way she finds that all the approaches necessitated by the system can be made much more smoothly. Simply because a contact made with the correct type of joking attitude achieves the purpose of the contact more quickly and easily, a member tends to repeat this type of joking in further contacts. If her attitude in making the approach was not correct the fact that it elicits a rather less satisfactory reaction discourages her from using it again—although neither positive nor negative use of these sanctions is necessarily conscious.

Nor is this the only form of automatic sanction. Both the mental and physical pleasure which the joking gives is a sanction in itself. It has been shown how in the course of carrying out her duties there are times when the sales assistant's anxiety about selling enough to earn her adequate commission and the approval of her superiors is likely to reach exasperation point as a result of the way in which the three types of controlling circumstances (store layout, selling system, and staff hierarchy) operate as a handicap to her. Occurring as it does at this point, the joking not only acts as a relief to the anxiety and prevents it developing into something worse but also provides positive enjoyment for those participating.

It is clear, therefore, that by means of a tradition of joking behaviour between its members, which is quite unknown to the management,⁵ this store is able to avoid considerable tension and disagreement that would be likely to occur as a result of the difficulties inherent in its formal structure. In so doing it also gives

5. On reading my report the Managing Director said he had previously had no idea that a joking relationship existed, but he was not surprised that it did.

the employees a source of positive enjoyment in carrying out their routine activities and incidentally, by means of this, renews their energy to cope even more adequately with their routine problems.

Joking is not a general characteristic of stores—even those of a particular area. In the course of some further research in a different organization—a group of multiple stores—I have found that in a branch only a few yards away from the department store described here, there is no customary joking behaviour at all. However, the multiple store has an extremely simple layout and system, and therefore less need of a supporting tradition. It is not yet clear how a joking relationship is established, but in view of its obvious importance in a particular type of formal structure, further research into its mode of origin would undoubtedly be of value.

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BIOGRAPHICAL NOTE

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For the past three years Miss Bradney has been employed by the management of a large group of multiple stores as a social anthropologist studying problems of human relationships in the stores.

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*Effects of Performance Evaluations on Group Integration and Motivation*¹

LEONARD BERKOWITZ, BERNARD I. LEVY,²
and ARTHUR R. HARVEY

FEW studies concerned with group effectiveness have dealt explicitly with the 'feedback' effects of knowledge of the quality of group performance upon the members' attitudes toward each other and their task. However, most work groups do not disband when they complete a product or otherwise achieve the goals assigned to them. Furthermore, industrial and military work groups are evaluated continually by their superiors, and continue to work. Little is known of the possible effects of these performance evaluations upon the group members' subsequent task motivation and attitudes toward each other.

Recent studies provide a beginning to the solution of this problem. Gilchrist (3) has shown that group members rated as performing well by a competent external agency become more attractive to other members. However, it is likely that this finding will hold only under restricted conditions. For example, the quality of an individual's performance on a group task probably will be relatively unimportant to other group members who do not place a high value upon group effectiveness. Hence his performance will be relatively unimportant in determining his attractiveness to these other members.

A general principle can be developed that will incorporate both Gilchrist's finding and our suggested exception. Let us first assume that evaluations of an individual member's performance determine the extent to which other members perceive him as facilitating or inhibiting the attainment of the goal of group effectiveness. Our basic hypothesis is that the effect of a given performance evaluation upon other members' attitudes toward the person evaluated depends upon the joint operation of two factors: (a) *The extent to which these members perceive an instrumental relationship between the individual's work behavior and the attainment of their goals.* As an illustration, group members are more highly dependent upon each other for attaining the goal of effective performance, and should perceive a greater instrumental relationship between each other's behavior and this goal, in a completely interdependent task than in a task in which members can compensate for the errors or deficiencies of others in the group. (b) *The degree of satisfaction expected from the given goal* (e.g. group effectiveness). In an interdependent group task each member should perceive the others' behavior as being instrumental to the goal of group effectiveness. However, highly task-motivated members, placing a higher value on group effectiveness, expect more satisfaction

1. This study was carried out at the Crew Research Laboratory of the Air Force Personnel and Training Research Center. The opinions expressed in this paper are those of the authors and do not necessarily reflect the views of the U.S. Air Force. We are indebted to Dr. John Lanzetta for his helpful suggestions concerning the group task.

2. Now at D.C. General Hospital, Washington, D.C.

from this goal than less task-motivated members. Consequently, any individual member's work behavior is more important to the highly motivated than to less motivated group members. If we somewhat arbitrarily multiply together scores on each of the above two factors, we would predict that group members for whom we obtain a high product would be more strongly affected by a given evaluation of another member's behavior than group members for whom we obtain a lower product. For convenience we will refer to a relatively high product as denoting a perceived instrumental relationship to a valued goal.

In order to predict the effects of performance evaluations in a given situation upon the attractiveness of group members for each other, then, we must consider whether perceived instrumental relationships to valued goals are likely to arise in this situation. In general, these relationships arise through increasing the extent to which members perceive their goal attainment being dependent upon others in the group, or through increasing the degree of satisfaction expected from the attainment of these goals, or both.

There also is reason to believe that performance evaluations can heighten the group members' subsequent task motivation by creating perceived instrumental relationships. Thus, if the evaluations are directed to the group as a whole, each member will perceive that his attainment of the rewards associated with the favorable evaluations, to some extent at least, is dependent upon the work of the others in the group. There is suggestive evidence that this resulting perception produces relatively high task motivation (1, 2, 7).

In the following we shall make assumptions concerning the likelihood that these perceptions will develop under various conditions and we shall then formulate hypotheses concerning the attitudinal and motivational effects of performance evaluations in terms of these assumptions.³ Three-man groups are assigned to work on an interdependent group task. After a period of work, the subjects (Ss) are provided with performance evaluations supposedly made by a team of observing experts, but actually constructed previously by the experimenters (Es). Since the Ss do not have any objective criteria for evaluating the quality of their work, they will utilize these evaluations in judging their own performance as well as the performance of the others in the group. In a sense, these evaluations will determine how close the Ss believe they are getting to the goal of effective performance.

Our basic hypotheses may be summarized as follows. For the Ss with high initial task motivation (as determined before the evaluations are provided), the present interdependent group task will result in the Ss perceiving an instrumental relationship between the attainment of their valued goal (group effectiveness) and the work behavior of the others in the group. As a consequence, the quality of the group member work behavior will be important to these individuals, and the E's evaluations of the quality of the members' work should be highly related to their attractiveness to the Ss. Similarly, under certain specified conditions the evaluations provided by the external agency will not only heighten the perception of member interdependence for reward attainment, but, as a consequence, also will result

3. The hypotheses were formulated after ARH had begun collecting data and thus no direct measure of the perceived instrumental relationships is available. Time pressures dictated the continuance of the design even though only about five groups had been 'run'. It should be pointed out, in this regard, that although one-tailed tests of significance have been applied, most of the present results would remain significant with two-tailed tests.

in relatively high subsequent task motivation. Specific hypotheses now can be formulated in the light of the above discussion.

Effects of Performance Evaluations upon the Attractiveness of Group Members for Each Other

Group members generally judge each other's attractiveness along two broad dimensions: (a) attractiveness as a work partner, and (b) attractiveness as a social companion. The first hypothesis has to do with the correlation between these two dimensions of choice. *Hypothesis 1*: Because of the relative importance of effective task performance to highly motivated members (who are studied as one class of perceiver), judgements of the quality of another group member's (the stimulus-person's) performance should not only affect his attractiveness as a work partner, but also should generalize to affect his attractiveness as a social companion. The two choice dimensions should be less highly correlated for the low task-motivated members (the other class of perceiver). An individual's task performance is largely irrelevant for these latter perceivers.

Also, since the quality of the stimulus-person's performance will matter more to highly motivated members than to less motivated members, *Hypothesis 2a*: (with one exception noted in connection with Hypothesis 5) stimulus-persons rated by the external agency as performing poorly, will be less attractive on both choice dimensions to highly task-motivated group members than to less highly task-motivated members. Similarly, *Hypothesis 2b*: stimulus-persons rated by the external agency as performing well, will be more attractive on both dimensions to highly task-motivated perceivers than to less task-motivated perceivers.

Combining these two hypotheses, we arithmetically derive *Hypothesis 3*: the difference between the attractiveness of stimulus-persons seen as performing well and that of stimulus-persons seen as performing less well should be much greater on both choice dimensions (with the former more attractive) for highly task-motivated perceivers than for less task-motivated perceivers.

The context in which the stimulus-person is embedded also should affect his attractiveness to the other members of his group. For example, the stimulus-person's performance should stand out more—in a figure-ground sense—to a highly task-motivated perceiver if the stimulus-person is the only group member seen as performing poorly. This 'contrast effect', in turn, *Hypothesis 4*, should affect his attractiveness to highly motivated perceivers adversely.

Heretofore, we have considered perceived instrumental relationships stemming from a disposition brought into the situation by the individual perceiver. However, the external agency's performance evaluations also may affect the perceived instrumental relationships. For one thing, a heightened perception of dependency upon the group for goal attainment may arise when all group members are rated as performing poorly. In this case no part of the group can be held responsible for the poor group performance. If group members are highly motivated to perform their task, unfavorable performance evaluations should be responded to as indicating a low probability of achieving their valued goal of successful task performance. Schachter *et al.* have postulated a tendency for group members to unite in the face of such a condition. 'It is assumed that the tendency to integrate increases monotonically with increasing valence of the goal and decreasing probability of achieving the goal' (8, p. 431). They cite the results of an experiment by Lanzetta (5) as evidence for this hypothesis. In a sense, this group-integration tendency is a

perceived instrumental relationship. The members presumably draw together for support against the threat of not attaining a valued goal.

Since the above group-integration tendency arises only when the members are highly motivated, we have *Hypothesis 5*: When all group members are unfavorably evaluated by the external agency, a given stimulus-person in the group will be more attractive on both dimensions to perceivers who are highly task-motivated than to less task-motivated perceivers.

Effects of Performance Evaluations upon the Members' Task Motivation

There are two sets of reasons for believing that groups performing on an interdependent group task who perceive a low probability of attaining the highly valued goal will become more highly motivated to achieve this goal. First, the group members may feel that the best defense against the threat of failure is success. They may, then, as a defensive reaction, renew their efforts with increased vigor. Second, as a result of the above-mentioned group-integration tendency, the group members may see each other as being mutually interdependent for goal attainment. Research evidence suggests that this perception of interdependence results in increased motivation toward the group goal (2; 7, p. 316; 1).

Hypothesis 6a follows from the above reasoning: Members of initially highly task-motivated groups in which all members receive unfavorable performance evaluations will demonstrate higher task motivation afterwards than members of groups also receiving all unfavorable evaluations but who are initially less task-motivated. Furthermore, if we assume that the frequency with which group members 'keep apart' from the others in their group in a non-work period can be taken as an inverse index of the group-integration tendency, the former groups should have less of this type of behavior than the latter.

Members of groups receiving differential evaluations should not develop the perception of interdependence. By 'differential evaluations' we refer to the condition in which some group members are favorably evaluated while others are told they are performing poorly. These differential evaluations should create the perception of a heterogeneously composed group, at least with regard to task skill, and the group-integrative tendency should not result. *Hypothesis 6b*: Members of initially highly task-motivated groups in which all members receive unfavorable evaluations will demonstrate higher subsequent task motivation and fewer instances of members keeping apart from the others in their group in non-work periods than members of groups receiving differential performance evaluations.

In the above discussion we have assumed that perceived instrumental relationships can arise as result of the nature of the external agency's evaluations, i.e. whether the evaluations are favorable or unfavorable. In the following we will consider whether the target of the evaluations—whether directed to the group as a whole or to the separate members—can affect the hypothesized perceived instrumental relationships.

The performance evaluations provided to the group members in the present study are ratings of each of the individual group members, although the members are aware of each other's evaluations. Since the external agency's ratings are in terms of the separate individuals, members of groups receiving favorable evaluations should not develop, to any great extent at least, the perception of mutual interdependence in attaining the rewards associated with favorable evaluations. In essence, the separate evaluations suggest that the members are rewarded for

individual performance. The members of groups receiving unfavorable evaluations of the individual members, however, should perceive each other as interdependent for reward attainment as a result of the group-integrative tendency.

The next hypothesis follows from the above discussion. *Hypothesis 6c*: Initially highly motivated groups in which each member is aware that everyone has received an unfavorable individual evaluation will demonstrate higher subsequent task motivation and fewer instances of members keeping apart from the others in their group in non-work periods than the groups, initially highly motivated or not receiving favorable evaluations of the individual members.

There are additional data permitting us to test, at least in part, the assumption that the target of the external agency's evaluations can affect the motivation of the members on the present type of task. An earlier study (1) had been conducted employing a procedure almost identical to that used in this experiment. The sole difference was that the favorable or unfavorable evaluations given to the groups were provided by a single set of ratings referring to the entire group as a whole.⁴ Thus, the dependent variable scores of groups receiving favorable evaluations of the group as a whole can be compared with the scores of groups in which the members are aware that everyone has received favorable individual evaluations.

In terms of the present argument, the label applied by the experimenter ('these are your *group's* evaluations', or 'these are your *individual* evaluations') presumably affects the degree to which the members see each other as interdependent, and consequently affects their task motivation. *Hypothesis 7*: The groups receiving favorable evaluations of the group as a whole should demonstrate higher subsequent task motivation and fewer instances of members keeping apart from the others in their group than groups in which the members are aware that everyone has received favorable individual evaluations, whether these latter groups are initially highly motivated or not.

METHOD

Subjects

The present sample consists of 32 groups, each composed of three airmen in basic training. The airmen varied markedly in intelligence classification but included substantial representation from the highest intelligence groups.

Group Task

The group task was employed solely as a convenient setting within which the effects of performance evaluations could be studied. The task involved a miniature three-man air-defense warning center. The basic component was a metal-covered board marked off into a grid identified by coordinates. Three discrete target areas were located roughly near the center of the board.

The following types of information were supplied to the group: (a) A continuous tape-recorded message, divided into four-minute intervals, continuously reported the coordinates of 15 unidentified planes: 9 enemy bombers and 6 friendly planes. During an interval the group had the task of translating the aircraft positions reported into moves on the interceptor board, and then deciding on the deployment

4. No measures of initial task motivation were obtained for the groups in the earlier experiment.

of six interceptors; (b) A second input consisted of flight plans for the 6 unidentified friendly planes posted on the 'Friendly Aircraft Status Board' near the metal-covered board.

The general requirement of the task was to defend the three target areas against an attack by enemy bombers. This necessitated correct identification of friendly and enemy planes, and strategic deployment of the available interceptor force for effective defense.

Procedure

All Ss were first told that the purpose of the experiment was to study the way in which people work together in important Air Force groups such as air-defense teams. The task was first described in detail. The Ss were then given a brief questionnaire. The second of these items, described below, was designed to assess the Ss' initial task motivation.

Upon the completion of this questionnaire, the Ss were told that 'psychologists and experts' would observe their performance from behind a one-way mirror and evaluate them by comparing their performance with that of over 200 groups of basic trainees like themselves who had worked previously on the task.

The Ss then were informed about the sequence of activities in the experiment: a brief practice session, an initial trial, a fifteen-minute 'break' period, and finally a second trial. They were also informed that they would receive psychological evaluations at the end of the fourth and eighth intervals of the first trial.

After the brief practice trial of two intervals, the Ss were given the first trial, which was stopped before the end of the problem, and before any targets were hit, at the completion of the eighth interval. The Ss then filled out a sociometric questionnaire. The responses to this questionnaire are employed in the analyses of attractiveness. Upon completion of the questionnaire, the Ss were told they would have a fifteen-minute 'break' but that they would have to remain in the room.

E then went to the adjoining room where he observed the Ss' behavior during this rest period through a one-way mirror. At the end of fifteen minutes E returned to the experimental room where he started the Ss upon the second trial. No analyses were made in the present study of the sociometric choices after this second trial.

The Measure of Initial Task Motivation

As described above, the measure of initial task motivation is based upon the Ss' responses to one of three items in a questionnaire administered after the group task was described but before they were told that they would be observed and evaluated.⁵ The initial motivation item reads as follows:

'What proportion of the other basic trainees would you *want* to beat out, to do better than, in this experiment?

1. None.
2. Twenty-five per cent of the other basic trainees.
3. Half of the other basic trainees.
4. Three-quarters of the other basic trainees.
5. All of the other basic trainees.'

⁵ This item was selected on the basis of preliminary analyses made in the earlier study (1).

On the basis of preliminary observations, highly motivated Ss were defined as Ss choosing alternatives 4 or 5, while 'low-motivated' Ss are those choosing any of the other three alternatives. Highly motivated groups would have a sum of 12 or more. After data had been collected from 20 groups, the three-man groups were assigned to conditions in such a way that at any one time there was a relatively equal distribution of highly motivated Ss across all conditions.

The Performance Evaluations

There are eight conditions in the present experiment: a 'high-motivated' and 'low-motivated' condition within each of the four main experimental conditions. In order to facilitate the statistical analyses, three of the thirty-five groups were eliminated at random so that there are four groups in each condition for each of the analyses.

There are four different patterns of group member evaluations:⁶ (a) each group member is favorably evaluated (FFF); (b) two are favorably evaluated while one receives an unfavorable evaluation (FFU); (c) one member is favorably evaluated and the other two are unfavorably evaluated (FUU); (d) all three are unfavorably evaluated (UUU). In each case, S No. 1 in a group received the first evaluation, No. 2 the second evaluation, and No. 3 the third evaluation. In the present investigation, S No. 3 is always employed as the stimulus-person while S No. 1 is taken as the perceiver.

The evaluations for each of the group members were presented on a single page so that the Ss would be aware of their own ratings as well as the ratings given to the others in their group. In order to provide standardization, the individuals were given evaluations by means of previously constructed ratings of seven attributes, such as (a) understanding of problem requirements; (b) utilization of resources; and (c) level of cooperativeness. It was believed that the attributes would sound meaningful to the Ss but yet would be nebulous enough so that the Ss would not have any objective basis for questioning the ratings. The ratings were in terms of percentile scores. These scores were briefly explained, and it was stressed that 50 represented the average score. The ratings given the favorably evaluated Ss average 85 at the fourth interval and 90 at the eighth interval. For the unfavorably evaluated Ss, the ratings average 35 and 30 respectively. Analysis of the responses to the questionnaire item dealing with perceived performance effectiveness (Item 2) administered in the preceding study (1) revealed highly significant differences between the favorably and unfavorably evaluated Ss and supports the effectiveness of this manipulation.

The effects of the present individual evaluations are compared in part of this inquiry with the effects created by evaluations given to the *group as a whole* in the earlier study (1). These latter evaluations were provided using a procedure identical to that described above. There are five groups in this latter condition.

6. A factorial design would have been preferable for the study of the effects upon sociometric choices, we believe. Such a design would permit better tests of the interactions among and the main effects for the following: (a) evaluation of S No. 1 (who is studied in part of this experiment as the rater making the sociometric choices); (b) evaluation of S No. 2; (c) evaluation of S No. 3 (who is studied as the object of the choice-making decision); and (d) the initial task motivation of the choice-maker, S No. 1. However, situational pressures dictated the present compromise.

The Observations: the Measures of Task Motivation

The observations made by the E during the 'break' period consisted of fifteen-second time samples taken each minute for fifteen minutes. Three categories were employed in the observational system. The categories are (a) 'Keeps to self' (S); (b) 'Task-oriented discussion' (TO); and (c) 'Non-task-oriented discussion' (NTO).

The observers coded any S reading one of the magazines in the room or otherwise not engaged in conversation with another S during this time sample as 'keeping to himself'. A remark made at any time during the fifteen-second period was coded according to its predominant function. For the present analyses, the measures employed are group scores, which are the total number of units coded in any one category over all fifteen time samples. The Hoyt reliability estimate (4) for the scores at this group level is .99.

The number of units coded in category TO is taken as the index of task motivation. This measure has to do with involvement in the group task at a time when there is no overt pressure to be concerned with the task. The Ss could avoid the task during the 'break' period either by 'keeping to themselves'—by which they are apparently also avoiding the other group members—or by 'non-task-oriented discussions'.

The Sociometric Measures: the Measures of Member Attractiveness

The three sociometric measures employed in this study are as follows:

1. The Air Defense Command has three-man teams working on tasks essentially similar to the task your group is now engaged in. *If you were assigned to such a team in the ADC, would you want the men with whom you are now working to be on your team?* Rate each of your present teammates on the following scale. (The alternatives range from (e) 'I would definitely want him on my team', to (a) 'I definitely would not want him on my team'.)

2. How well do you think each of your present teammates has worked on the problem you have just completed? Rate each of your teammates on the following scale. (The alternatives range from (e) 'He did an excellent job', to (a) 'He did a poor job'.)

3. If you were going to town for an evening, would you want each of your present teammates to go with you? Rate each of them on the following scale. (The alternatives range from (e) 'I definitely would want to go with him', to (a) 'I definitely would not want to go with him'.)

The first item is the measure of the member's attractiveness as a work partner, while Item 3 is the measure of attractiveness as a social companion. Item 2 was inserted primarily to test the success of the experimental manipulations.

RESULTS

There are no objective performance differences among the various conditions for the first trial.

Ratings of Attractiveness

In each of the conditions we ascertained the ratings given to the stimulus-person, 3, by the perceiver, S No. 1, on each of the three sociometric items in the questionnaire administered immediately after Trial 1. Because of the between-condition heterogeneity of variance for the sociometric data, the Mann-Whitney

test was utilized in the condition comparison analyses employing these data. One-tailed tests were accepted since the directionality of the differences was suggested in advance.

The obtained results clearly support *Hypothesis 1*. The correlation between Items 1 and 3 for the 16 highly motivated raters is $\cdot635$ ($P = \cdot01$) and is only $\cdot011$ for the 16 less motivated raters. The difference between the correlation coefficients is significant at beyond the $\cdot01$ level of confidence. There is a strong relationship between wanting an individual as a work partner and wanting him as a social companion for highly motivated task-raters, while these two attractiveness dimensions are independent in the case of low-motivated raters.

TABLE 1 THE MEAN RATINGS GIVEN TO THE STIMULUS-PERSON, S NO. 3, BY THE PERCEIVER, S NO. 1, ON EACH OF THE ATTRACTIVENESS ITEMS

S3's:	S No. 1's Initial Task Motivation					
	HIGH			LOW		
Condition	Desirability as a Work Partner	Performance Effective- ness	Desirability as a Social Companion	Desirability as a Work Partner	Performance Effective- ness	Desirability as a Social Companion
FFF	5.00	3.75	4.75	3.50	3.25	3.75
FFU	3.25	2.50	3.00	4.00	2.75	3.50
FUU	3.50	3.25	3.50	3.25	2.75	4.50
UUU	5.00	3.00	4.75	4.00	3.00	3.50

The hypotheses in *Hypothesis Set 2* refer to differences between high- and low-motivated perceivers in the attractiveness of S No. 3. *Hypothesis 2b* was supported for attractiveness both as a work partner and as a social companion ($P = \cdot02$ and $\cdot05$ respectively). The Ss No. 3 in condition FFF (and who were thus rated as performing well) were more attractive on both dimensions to highly task-motivated perceivers than to less motivated perceivers.

Because of the hypothesized 'contrast effect' (*Hypothesis 4*) which is presumed to be operating in condition FFU, *Hypothesis 2a* was tested by comparing the attractiveness ratings given to the 'poor-performing' stimulus-persons by the high- and low-task-motivated perceivers in condition FUU. The hypothesis clearly was not supported. Stimulus-persons in this condition who were rated by the external agency as performing poorly were not significantly less attractive to the highly motivated perceivers than to the less motivated perceivers.

Hypothesis 3 concerns the differences between the attractiveness of stimulus-persons rated highly or poorly for the high- and low-motivated perceivers. This hypothesis was tested in the following manner. First, the cases within each condition were arranged in order so that the earlier obtained attractiveness ratings were listed before the ratings obtained at a later date. Second, for each of the sociometric items we subtracted the attractiveness ratings given to S No. 3 by the first highly motivated perceiver, S No. 1, in condition FFU from the ratings received by S No. 3 from the first highly motivated perceiver in condition FFF, maintaining the signs of the differences. Difference scores were obtained for each of the 4 pairs of 'high' perceivers. This procedure was repeated for the 4 pairs of less highly motivated perceivers. Mann-Whitney tests of the significance of the

differences in difference scores between the high- and low-motivated perceivers were then made for each sociometric item. Third, the procedure followed in step two was repeated using the differences between the attractiveness ratings given to S No. 3 in condition FFF and the ratings given to the comparable S in condition FUU. Here again, the difference scores on each item for the highly motivated raters were compared with the difference scores for the less motivated raters. The results of these analyses are given in *Table 2*.

TABLE 2 DIFFERENCES BETWEEN EFFECTIVELY AND LESS EFFECTIVELY PERFORMING SS NO. 3 IN SOCIOMETRIC RATINGS RECEIVED FROM HIGHLY TASK-MOTIVATED PERCEIVERS AS COMPARED WITH LESS MOTIVATED PERCEIVERS

Items	Conditions Compared					
	Ss No. 3 in FFF and FFU			Ss No. 3 in FFF and FUU		
	1	2	3	1	2	3
Mean Difference in Attractiveness Scores Given by Highly Motivated Perceivers	1.75	1.25	1.75	1.50	0.50	1.25
Mean Difference in Attractiveness Scores Given by Less Motivated Perceivers	-0.50	0.50	0.25	0.25	0.50	-0.75
Mann-Whitney Test (one-tailed) <i>P</i>	.02	—	.10	.05	—	.02

Three of the four comparisons are statistically significant. Thus, with the possible exception of the difference in attractiveness as a social companion between conditions FFF and FFU, there is a greater difference between the attractiveness of effectively and less effectively performing stimulus-persons when they are perceived by lightly task-motivated group members than when they are perceived by less motivated members. Highly motivated members apparently give greater weight to the stimulus-persons' performance than do less motivated members.

To return to *Table 1*, the first implication of the 'contrast effect' hypothesis is that Ss No. 3 in condition FFU will be less attractive to highly motivated perceivers than the Ss No. 3 in condition FUU. This hypothesis was not supported for either dimension of attractiveness. The second implication is that Ss No. 3 in condition FFU will be less attractive to highly motivated perceivers than to less motivated perceivers. This hypothesis also was not supported for either dimension.

According to the last hypothesis in this section (*Hypothesis 5*), highly motivated perceivers in the UUU condition should be more attracted to the stimulus-person than less motivated perceivers in this condition as a reaction to the perceived low probability of achieving a highly valued goal. The hypothesis is supported for attractiveness both as a work partner ($P = .02$) and as a social companion ($P = .05$).

Task Motivation

The tests of differences between condition means employed in this section were all *t*-tests. An analysis of variance for all eight conditions was first performed for each dependent variable. The *t*-tests⁷ were then based upon the within-conditions means squares, as suggested by Lindquist (6).

7. All tests of the significance of the differences between conditions which are dictated by the *a priori* hypotheses are one-tailed *t*-tests.

According to *Hypotheses 6a, b, and c*, the initially highly motivated UUU groups should demonstrate their high subsequent task motivation by having the greatest frequency of TO scores of all eight conditions in the present study. This prediction is supported, beyond the .02 level of confidence, for 6 of the 7 comparisons made. The one failure of prediction is in the comparison with the initially highly-motivated FFU groups who surprisingly also have a high frequency of 'break' behavior in category TO. The reason for the high task concern in this condition is not clear.

We also had predicted, in conjunction with *Hypothesis 6a*, that there would be fewer instances of subjects keeping to themselves in the non-work period, i.e. a smaller frequency in category S, in the highly motivated UUU condition than in the low-motivated UUU condition. This hypothesis is supported beyond the .01 level of confidence. We believe that the low frequency in category S is not merely due to the high frequency in category TO, but also reflects a heightened attractiveness of the group members for each other. Evidence from the sociometric analyses described above supports the present interpretation.

It also was predicted in connection with *Hypothesis 6b*, that the highly motivated UUU groups would have a smaller frequency in category S than the groups receiving differential evaluations (the FFU and FUU groups). These differences are not statistically significant and the hypothesis cannot be maintained. The part of *Hypothesis 6c* pertaining to this behavior category was only partially supported. The initially highly motivated UUU groups have significantly fewer instances of members keeping to themselves in the pre-work period than the initially highly motivated FFF groups ($P = .05$), but not significantly less than the initially low-motivated FFF groups.

Differences Between Groups Favorably Evaluated as a Whole and Groups in Which All 3 Members Receive Favorable Individual Ratings

According to *Hypothesis 7*, the five groups in the first experiment (1) who were favorably evaluated as groups would tend to become more task motivated than the groups in the present experiment in which all three members received favorable individual evaluations. This hypothesis is supported by the data given in Table 3.

TABLE 3 THE MEAN FREQUENCY OF BEHAVIORAL UNITS IN THE THREE OBSERVATIONAL CATEGORIES IN THE VARIOUS CONDITIONS

Condition	Present Experiment (N=32)					
	High Initial Motivation			Low Initial Motivation		
	Category S	TO	NTO	Category S	TO	NTO
FFF	20.0	8.2	14.2	8.2	12.2	20.8
FFU	10.5	21.5	10.8	8.8	6.2	19.2
FUU	12.8	9.8	21.2	13.0	10.2	17.2
UUU	7.0	29.8	5.2	30.2	6.8	3.0

Mean Frequencies for Each of the Different Categories in Groups Favourably Evaluated as a Whole in the First Experiment (1), (N=5)

Category
S
TO
NTO
8.8
23.0
10.4

The *t*-test between the condition means for the frequency of task-oriented discussions shows that groups favorably evaluated as a whole scored significantly higher on this motivational measure than either the initially highly motivated FFF groups ($P = \text{approx. } .02$), or the initially less highly motivated FFF groups ($P = .05$). (There were no significant differences for either of the other two behavior categories.)

Thus, there is a strong suggestion that groups become more highly motivated toward the present type of interdependent task when they are evaluated as a whole. The external agency may have created the perception of interdependence among the members by rating the group as a single unit, and this perception may have increased motivation toward the group goal.

Some insight is gained into the possible psychological concomitants of this verbally produced effect by comparisons of the FFF and 'group evaluation' conditions on the members' responses to the three sociometric items. These comparisons suggest that the above effect is not directly associated with group attractiveness. There are no significant differences between the group means either on the item measuring the members' desirability as work partners or on the item having to do with the members' desirability as social companions. However, there is a highly significant difference for sociometric Item 2, the perception of performance having worked more effectively than do the members of groups in which each man is favorably evaluated as an individual ($P = .01$). However, no such difference was found to exist in terms of the objective performance, i.e. the number of planes downed during the first trial.

SUMMARY AND CONCLUSIONS

Thirty-two three-man groups were evenly divided among eight conditions. The conditions were high and low initial task motivation within each of the following: (a) all 3 group members receive favorable performance evaluations from an external agency; (b) 2 members receive favorable evaluations and 1 receives unfavorable evaluations; (c) 1 receives favorable evaluations while the other 2 are unfavorably evaluated; (d) all 3 members are unfavorably evaluated.

The following procedure was carried out for the groups in each of these conditions. They were given one incomplete trial on an 'air-defense task' in which the members were evaluated twice by means of sets of preconstructed ratings. Each member was also aware of the evaluations given to others in the group. After the second evaluation the members completed a sociometric questionnaire designed to assess the others' attractiveness to them, and then took a fifteen-minute 'break'. The group's behavior during the non-work period was observed through a one-way mirror. The frequency of task-oriented discussion (TO) during this 'break' period is used as one of the dependent variables, the degree of concern with the group task. The frequencies of non-task-oriented discussions and of members keeping to themselves were also recorded.

The basic assumption in this study is that the attitudinal effects of the performance evaluations depend, in part at least; upon the extent to which the members perceive an instrumental relationship between the performances of the others in the group and the attainment of their valued goals. To illustrate this perception,

members who are relatively highly motivated to do well in an interdependent group task will perceive a strong instrumental relationship between the attainment of this goal (group effectiveness) and the work of the others in their group. As a consequence of this perception, it is hypothesized, highly task-motivated perceivers are more strongly affected by the judged performance of others in the group than are less task-motivated members.

This hypothesis is supported by the following results with the sociometric data: (a) the correlation between the attractiveness of stimulus-persons as work partners and their attractiveness as social companions was significantly higher for the highly task-motivated perceivers than for those with lower task motivation. Since the quality of an individual's task performance is relatively unimportant to the latter, factors other than the quality of an individual's work determine his social attractiveness to this class of perceiver. Similarly, the highly task-motivated perceivers (in contrast to those with lower motivation): (b) consider the stimulus-person as highly attractive on both choice dimensions if he is seen as performing well on the task; and (c) have larger differences between the attractiveness ratings given to stimulus-persons seen as performing well and to those seen as performing poorly.

There is reason to believe (5, 8) that highly task-motivated groups who perceive a low probability of achieving their highly valued goal will react to this threat with an increased tendency toward group integration. This tendency also is conceptualized as a perceived instrumental relationship: the group members become more highly dependent upon each other for support against the threat of failure to achieve the goal. In the present experiment, initially highly motivated members of groups in which everyone in the group receives an unfavorable performance evaluation (and who thus should perceive a low probability of attaining the highly valued goal) demonstrate the increased group-integrative tendency by rating others in their groups as being highly attractive to them.

Research evidence (1, 2, 7) also indicates that Ss who perceive this type of mutual interdependence among the group members become highly motivated toward the group goal. Therefore, initially highly motivated members of groups in which everyone receives unfavorable performance evaluations from the external agency should show high subsequent task motivation as a consequence of the above-mentioned group-integrative tendency. The present data support this hypothesis.

Perceptions of mutual interdependence also can be heightened by the target of the performance evaluations—whether they are directed to the groups as a whole or to the separate group members. Members of groups in the present experiment who receive favorable individual performance evaluations do not become as highly motivated toward the present interdependent group task as members of groups receiving favorable evaluations of the group as a whole.

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BIOGRAPHICAL NOTES

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An Approach to Family Relationships and Role Performance

RHONA RAPOPORT AND IRVING ROSOW

THIS paper concerns some problems in the general analysis of role relations in various institutional settings. It applies most clearly to small groups such as the family or work teams. A framework is presented for the collection and ordering of comprehensive data on familial (or other) relationships. Although the proposal may have wider uses, such as the analysis of group stability or sources of strain, it is discussed here in the specific context of family relationships and psychiatric rehabilitation.¹ This clinical emphasis, however, should not obscure its broader relevance.

Recent trends in the less intensive forms of psychiatric treatment, including some schools of group and milieu therapy, show a growing interest in the limited goals of social rehabilitation. To some extent this reflects a popularization of social psychiatry. Certain streams of this development are frankly committed solely to the readjustment of patients' *behaviour* on a fairly stable basis, with no more restructuring of psychodynamics than this requires. This approach is most appropriate to the large number of people who cannot fulfil their normal social responsibilities and obligations. They may become chronically unemployed, legal offenders, or similar deviates whose difficulties have repercussions on their families.

Although the personal difficulties underlying such role failures are commonly rooted in early family relationships, their most drastic consequences may be reserved for adult life when they erupt directly on the contemporary family scene. The results are most extreme in instances of non-support or other failure to provide for dependants. In many cases, the role failure may not occur in a clear-cut fashion: the person is neither overtly sick nor well; often he continues to live with the family instead of leaving it (as in crises of death or desertion); his disturbance may be intermittent so that long periods of role failure are periodically broken by interludes of apparent normalcy which recurrently nourish the hope that he will eventually 'pull himself together' and thereby solve the family problem. So long as the person remains with the family and is not overtly incapacitated, the family can try to assimilate his amorphous role failure, but their tolerance seldom constitutes an adequate adjustment. Here the family has no clear, socially 'respectable' problem (such as bereavement) which can occur in any family and to which some permanent, approved adjustment can be made. Families disrupted by such role failure often enlarge the familiar hard core of many social agencies' inveterate clientele,

1. This paper arises out of a study of families of patients treated at the Social Rehabilitation Unit of Belmont Hospital (Director, Dr. Maxwell Jones). It is part of a research programme financed by the Nuffield Foundation and directed by Dr. Robert N. Rapoport, who has been particularly helpful in discussing the content of this paper. We are also obliged to Dr. Elizabeth Bott for valuable suggestions.

partially because the problem itself isolates dependants from informal sources of support.

Many people who fail in their role obligations have deep personality disturbances. The current interest in their treatment through group therapy is fed by two main sources. On the one hand, certain psychiatrists regard group and milieu therapy as technically superior to individual depth therapy in the resolution of personal difficulties. On various theoretical grounds, they consider group treatment capable of a pervasive re-ordering of personality and emotional life. They regard it primarily as a significant and legitimate therapeutic technique for deep therapeutic goals, and view its economic advantages over individual treatment as an ancillary gain. On the other hand, group therapy also appeals to those responsible for public policy decisions, mainly because of its economic advantages for a comprehensive public mental health programme; they regard the respective subtle merits of group versus individual treatment as matter for a gratuitous professional controversy. Between the extremes of maximum therapeutic effect and negligible therapeutic effect, public authorities are perforce concerned with practical economic solutions which promise definite (even if modest or superficial) therapeutic gains. Group therapy that is oriented to rehabilitation constitutes an attractive economical programme that promises to restore some patients to a necessary level of self-sufficiency and, thereby, to achieve a tolerable facsimile of independent family functioning. Psychiatrists and public officials may, therefore, advocate group methods for different reasons.

The authorities' interest represents a clear-cut policy choice about personality disorders and community efficiency. This does not imply that they callously value an individual's adequate social performance more highly than his personal happiness, for the choice is seldom so simple and bald. Instead, where strains of the social system erupt in individuals who, in turn, generate further strains in the community, authorities almost necessarily prefer to salvage many people (even on a limited basis) than to flounder helplessly or to overhaul a small number of people comprehensively. This accounts for their support of rehabilitation programmes in order to reclaim many people who have become a burden to themselves, their intimates, and the community.

The programmes with these aims are still groping and tentative. To some extent they embody experimental short-cuts and techniques to convert the knowledge and experience of intensive psychiatry into a feasible programme for short-term, wholesale treatment of a large volume of patients. This is no simple task, especially against the background of imprecise clinical practice that has distinguished so much of modern psychiatry. The major problem is to devise economic and effective modes of group therapy that can give patients the minimum necessary insight into the nature of their problems and the means to cope more successfully with the internal and external forces that originally precipitated their breakdown and role failure.

There is reason to believe that patients' family relationships may be a more significant condition of and limitation on successful rehabilitation than they may be in intensive, long-term individual psychotherapy. Accordingly, this paper will review selected aspects of patients' family relationships that have crystallized out of work at one group centre, the Social Rehabilitation Unit of Belmont Hospital.²

2. The family study involved a preliminary examination of relationships in the families of a small series of male patients in the London area. The substantive materials from which the present

In keeping with the mainstream of psychiatric trends, the Unit views patients less in terms of classical diagnostic categories or particular theoretical frameworks (such as the several Freudian schools) and more directly in terms of their immediate behaviour problems. Experience with these patients³ indicates that their behaviour problems reflect faulty interpersonal relations with others who are significant in the patient's normal roles—his spouse or children, supervisor or subordinates, employer or workmates, friends, relatives, neighbours, and others. His interpersonal difficulties at work and in his family almost invariably underlie the therapeutic problem. These can be specified in terms of 'role failure' which requires correction and to which rehabilitative treatment can be oriented.

In exploring the nature of patients' role difficulties, at least three sets of factors had to be considered:⁴ (i) the *role* or position in which the failures occurred; (ii) the *social norms*⁵ or the behaviour expected in that position; and (iii) the *personality* of the patient. We will review these elements in turn as they apply to the family situation.

First, in considering a patient's behavioural failures, it is important to know his *position* in the organization of the family. The meaning and consequences of a man's failure to hold a job will vary if he is single, if he is the sole support of invalid parents, if he has working brothers or sisters, if he is married but has no children, if his wife is working, if he is the father of a large family, or if he has grown children who are employed. Each situation implies different sets of obligations; there are different responsibilities and expectations of him and different opportunities for him to share these responsibilities with others. If he fails to work, different numbers of people will suffer in the various situations. In some circumstances there is another person to take up the slack of his unemployment while in others there is nobody else. So the expectations of him as son, brother, only child, husband, or father will vary primarily according to the role rather than to the particular person involved.

Second, a patient's behaviour can also be interpreted according to his definition of the situation, or according to the *social norms* which he thinks others attach to his family role, to the behaviour which they consider normal and appropriate for his position. Social norms, in the sense used here, may vary considerably from person to person. One person may feel that fathers should be disciplinarians of the children while mothers should be indulgent and warm. Others may feel that children should always be treated leniently while yet others may think that

schema is derived will be reported in subsequent publications. Detailed case studies using the scheme presented in this paper will be presented in a forthcoming monograph on the Social Rehabilitation Unit.

3. The patients treated in the Unit cover a wide variety of personality disorders short of frank psychosis.

4. For our purposes, the historical setting (such as war or depression) or special circumstances (such as a widower having nobody to care for three young children) represent a set of constant conditions in the context of each case. Their significance for role failure and rehabilitation must be separately assessed for individual patients.

5. In this paper, the concept of 'norms' follows the usage of Elizabeth Bott who distinguishes between social norms and personal norms. *Social norms* are 'the norms people think are current in some group or category' and refer to 'people's ideas about what behaviour is customary and what behaviour is right and proper in their social circle'. *Personal norms* are those 'ideals and expectations that informants think are their own private standards, different from those they attribute to other people' (5, see also 6). Thus, in effect, social norms are those which the person assumes he shares with others while personal norms are those which he believes are private and unshared.

discipline is the proper environment for a child. Similarly, one may believe that it is improper for a wife to work while another may feel that wives should work. Or one husband thinks he should not help around the house while another thinks that a husband should always help his wife. People's personal beliefs can be rationalized as social norms particularly when there is a disagreement between husband and wife. Conflict between husband and wife may arise from disagreement about what social norms are, and from deviance from those norms. These conceptions of 'proper' role behaviour are learned in childhood and in growing up and are reinforced or modified by various adult experiences. People define proper behaviour in any family role according to various segments of society with which they identify themselves and which they take as a model. The identifications may be positive or negative and may involve real groups or projected constructs.⁶

Finally, we need to relate behaviour itself to the pattern of *personality* needs that results from a patient's specific life history. Like social norms, personality needs develop from inter-personal experience with significant people during childhood, adolescence, and adult life. An emotionally rejected child may, as an adult, retain strong dependency needs to gain the reassurance that others love him. His inability to work for a living may be related to such dependency needs. Or a person with strong aggressive tendencies may use his family as a conspicuous outlet for the expression of his aggressive feelings. A highly suspicious person may tend to exaggerate the hostile elements in his environment and so be unable to enter easily into intimate relationships of trust and affection. These personality elements affect participation in the family by organizing the patient's perception and interpretation of his immediate world, by mobilizing his system of needs and defences, and by activating these strongly in the close quarters of family life. The family becomes a stage for the playing out of his emotional problems and the gratification or frustration of his deeper personality needs.

It became evident in the Unit, however, that the patient's *own* role, *his* social norms, and *his* personality organization *did not adequately account for his role failure*, or for the factors that precipitated his breakdown, or for his response to treatment. This may prompt questions about those doctrinaire psychiatric assumptions that the only 'real' pathology is intra-psychic and that the only legitimate object of therapy is the patient's own personality. (Similar queries may be raised about restricting the problem simply to patients' deviant beliefs or social norms.) Actually, the personality and value anomalies that invariably distinguished Unit patients were not always the determinate, or even decisive, factors in their breakdown. Similarly, changes in the patients' role performance, from before to after treatment, did not closely correspond with any apparent changes in their emotional make-up as a result of therapy. Experience rather indicated that patients with essentially *similar emotional problems* but with significantly *different family environments* seemed to adjust differently after treatment. Accordingly, the effort to restore adequate role performance and to rehabilitate these people solely with an eye to their personality pathology or to their deviant norms did not impress the Unit staff as markedly successful.

Other significant variables had to be taken into account. The most important of these was how well the patient's values and personality *fitted together* with the norms and personality needs of his family members. For example, while a passive,

6. For a detailed elaboration of this point, see Elizabeth Bott (3).

dependent husband might manage fairly well with a maternal, over-protective wife, incapacitating strains and tensions might develop for a similar patient whose wife wanted him to be dominant, decisive, and strong. Or a violently aggressive husband might thrive with a highly masochistic wife, while another family might be torn apart if the wife had strong needs to be protected from violence. Thus, the patient's participation in the family depends less upon his specific attributes alone than upon the *articulation* of his attributes with those of his family members.

The meaning of the patient's behaviour in relation to realistic therapeutic aims demands a fuller understanding of the larger family situation into which the patient fits. In the course of interviews with the families of several patients, it became clear that the patient's role performance could be seen as a function of his relations with the other family members. Accordingly, a fruitful unit of analysis appeared to be the *relationship* between the patient and each of his significant intimates in his respective family roles.⁷ In order to locate and clarify possible sources of strain, these relationships were examined in three dimensions: 1. the *fit* between the norms of the patient and others about his proper role performance; 2. the fit between the personalities of the patient and other family members; 3. the emotional climate that developed from the intimate interaction of the patient and the family. We will consider some of the problems arising in this framework.⁸

1. *Fit of Norms about Role Performance.* The degree of family consensus that may be expected about role standards is problematic, and obscures the contribution that conflicting norms make to role failure as such. The structure of the modern family permits a broad range of alternative role adjustments. Competing cultural values and flexible social norms increase the chance for personal preference to shape the organization of family life. Specific role content, the 'proper' performance of different family members, and the preferred relationships between them are subject to flexible settlement which can vary considerably from one family to another. Consequently, idiosyncratic role adjustment may be specially marked in problem families, which may disproportionately display conflicting values and needs.

Though the limitations on free role adjustment will vary in different classes, ethnic groups, neighbourhoods, and other social units, roles in the modern urban family generally tend to be more 'fluid' and open to idiosyncratic definition than those of many non-urban, pre-industrial family systems. In families in pre-literate and pre-industrial societies, role behaviour is largely prescribed by authority and tradition, and any given role may show comparatively little variation from one kinship unit to another. Indeed, as basic variables in the division of labour and the distribution of privileges and obligations, age and sex *alone* may account for major variations in the structure and specific content of different family roles. On the whole, the role prescriptions are relatively clear and specific, and deviations or transgressions invite known sanctions. On the other hand, aside from certain

7. The relationship is being used here as a variable of analysis, but this does not mean that it is actually the *unit of treatment*. Although there has been considerable interest in making patient's relationships directly amenable to therapy, it is not yet clear how this can be done. One possibility may be the simultaneous treatment of all the people involved. Failing this, however, it is possible to take into account others' contribution to the relationship and to work out therapeutic aims for a patient with reference to this.

8. Among contemporary psychiatrists attempting a synthesis of role and personality factors are Nathan W. Ackerman (1) and John P. Spiegel (9).

fundamental distinctions in sex roles, proper role behaviour in the modern urban family is not so clearly prescribed nor so commonly defined. The content of a contemporary family position may embrace a wide variety of activities, obligations, and prerogatives that are subject to more personal choice than the highly prescribed behaviour patterns that are commonly defined and agreed upon in other social systems. There are many alternative patterns that different individuals prefer and rather fluid boundaries of 'acceptable' behaviour. For example, wives may go out to work or not; husbands may help with the children or not; spouses may have an 'egalitarian' relationship or a dominant-subordinate one, and so on. Since the culture prescribes role behaviour mainly within these loose limits, individual families can adjust rather freely within the most congenial of the available cultural alternatives. Spouses may work out a personally and socially acceptable marriage in various ways without being considered odd or unusual—and neither they nor anybody else will necessarily appreciate how much they differ from their fellows. A range of cultural values is available to rationalize different patterns that appeal to particular tastes.

While many possible adjustments are 'acceptable', very few are positively prescribed as 'musts' or clearly indicated as 'strongly preferred'. Preferred patterns are more easily found among class or ethnic groups and other relatively homogeneous subcultures, but even here there is considerable leeway for distinctive adjustments. Aside from the role content, one family will show variation from another even in the sheer clarity with which familial roles are defined. According to one study, roles are more clearly defined where the husband and wife live in a situation in which their friends, neighbours, and relatives know one another, i.e. where numerous role models are concentrated within associating groups (see 4). In so far as norms are flexible, the sanctions for apparent deviations vary in clarity and force, just as the adjustment to deviation cannot be strongly institutionalized.

The leeway in acceptable role behaviour not only presents freedom of choice, but also creates numerous ambiguities of expectation which the spouses normally have to work out. Each has grown up in an environment that has shaped his images and expectations, his sometimes vague ideal picture of the life he wants, his fears and hopes. Each person brings to the marital relationship his own norms about appropriate behaviour in different family roles. Despite marked cultural endogamy, the spouses may have quite different norms. Their separate sets of norms have developed independently, and can, in the best of circumstances, only 'fit' together with more or less imperfection. Their differences, rooted in separate definitions, must be reconciled or accommodated. This is commonly an intrinsic part of the process of marital adjustment, especially in its earlier phases. The initially different expectations that each spouse may have about a given role impart to their relationship a degree of *uncertainty*, and they have to derive some shared definition of proper role behaviour or some common agreement about what is appropriate. Of course, the resolution of their initial differences does not always assure a good 'terminal fit' of norms or a high and stable consensus of expectations.

The compatibility of norms affects reciprocal expectations about the patient's role performance. When there is consensus, role fulfilment is facilitated; when there is not, role performance may suffer or be negatively evaluated.

2. *Fit of Personality Systems.* The second major dimension of fit between the patient and other family members includes at least three elements: (a) their respec-

tive personality needs;⁹ (b) their characteristic modes of gratification; and (c) their typical defence mechanisms, or ways of dealing with anxiety and frustration, whether from real or fantasied causes.

The personality systems of any two people can fit together in various ways and have supportive or disruptive consequences on their relationship and their respective role performances. The effects of given personality fits will depend on the organization of the relationship. For example, a husband and wife who both have strong needs to dominate may be mutually supportive if they are highly identified with one another. But if they are not strongly identified, these similar needs might reduce them to a continuous rivalry. With firm identification patterns, a dominant husband and a submissive, dependent wife might enjoy a most compatible fit. In the first case, similar needs complement one another; in the second, they clash; and in the last, dissimilar needs are compatible. While it is commonly supposed that 'opposite' or dissimilar personality characteristics constitute a good fit and similar attributes a poor fit,¹⁰ this obviously depends upon the conditions of the relationship. Two people's personality systems may reinforce each other by both similar and different qualities or by similar and different intensities of certain needs. Clearly, not all personality factors have reinforcing or disruptive effects. Some elements may be missing, some may simply be independent of one another, some may be congenial or mutually compatible without either complementing or clashing. The function of any pattern of fit can only be judged against the respective self-images, the personality systems, and the organization of the relationship itself.

It is clear that the variables of social norms and personality systems are not completely independent of one another. When possible role adjustments are loose and flexible, personality needs may shape role relationships which are then legitimized by appropriate cultural values. Therefore, the fit between people's personality systems may partially determine the fit between their social norms. The two variables are related to each other in as yet indeterminate ways.

3. *Emotional Climate.* The third major aspect of fit results from the interaction between people living together. The effects of this interaction gradually build up an emotional climate that may dominate the relationship. The initial fit between a couple's norms and between their personality needs sets the stage for the development of their relationship; their responses to the sustained interaction can alter the initial fit.

When the most basic cultural values are shared and supported by complementary personality systems of spouses, this tends to increase their commitment to and participation in the marriage, or how much of himself each person 'puts into' his role performance. Conversely, to the extent that expectations are not shared or are undermined by antagonistic values or personality characteristics, there will be correspondingly less commitment to the marriage. These adjustments have direct effects on the motivations of role performance. The achievement of a reasonably stable family depends on some tolerable resolution of any discrepant norms or

9. The personality needs may be overt or covert, conscious or unconscious, deep or superficial. They are exemplified by the categories of Henry A. Murray, such as the needs to dominate or achieve, to be recognized or independent, etc., although other needs schemata may be equally useful.

10. See bibliography and analysis of the work of Robert Winch and his associates on this point in Irving Rosow (8).

personality needs. While this adjustment initially requires some minimal 'emotional maturity', it is further affected by the partners' ability to remain compatible through time, as they develop and change, separately and together, while the family goes through various experiences and stages of growth (7). In the face of an inability to adapt to one another, their frustrations and tensions may mount and hostility may accumulate. Although this results from the relations between the spouses, from their interaction, and from the fit between their values and needs, it may easily assume an independent force in its own right. As the accumulated strains pervade the emotional climate they reduce the solidarity of the relationship and impair the individuals' participation. The degree of disruptive qualities that develop (e.g. irritability, impatience, and aggressiveness gradually displacing sympathy, support, and cooperation) may ultimately discourage role fulfilment just as effectively as initially clashing values or personality systems.

While each set of fits can influence the emotional climate, our studies suggest that superficial psychotherapy can effect cognitive reorientation more easily than basic emotional changes. Hence, from the therapeutic viewpoint, the fit between social norms is more tractable than that between personality systems. A couple can achieve greater agreement on their most important cultural values more easily than they can adjust a poor fit in their personality needs. This is evident from case materials that illustrate the points in the preceding discussion:

Case 17. Jack Kelly came from an Irish background in which it was acceptable for a husband to spend the bulk of his leisure time in the pub drinking with his cronies, while his Cockney wife felt that husbands should spend more of their free time at home with their families than her husband did. Furthermore, in the sexual sphere, he indicated that, 'Irish women, even though they are more religious and strait-laced [than Cockney women], they are more natural and healthy-minded about these things.' His wife's views on sex apparently led her to avoid intercourse or undressing when intercourse did occur. While their differences about his free time had clear cultural roots, their different sexual orientation reflected personality determinates.

During treatment, the Kellys came to realize more clearly that they had quite different values in these two particular conflict spheres, and the emotional strains between them eased. They were able to achieve perceptibly closer agreement in their images of desirable role behaviour. Jack acknowledged that he had previously spent too much time away from his family drinking with friends. After treatment, he remained at home a good deal more, and when he went to the pub, he took his wife along to share his leisure. For her part, his wife realized that perhaps she had made herself sexually too inaccessible to him. Indeed, because of her new orientation, she had herself fitted with a contraceptive diaphragm.

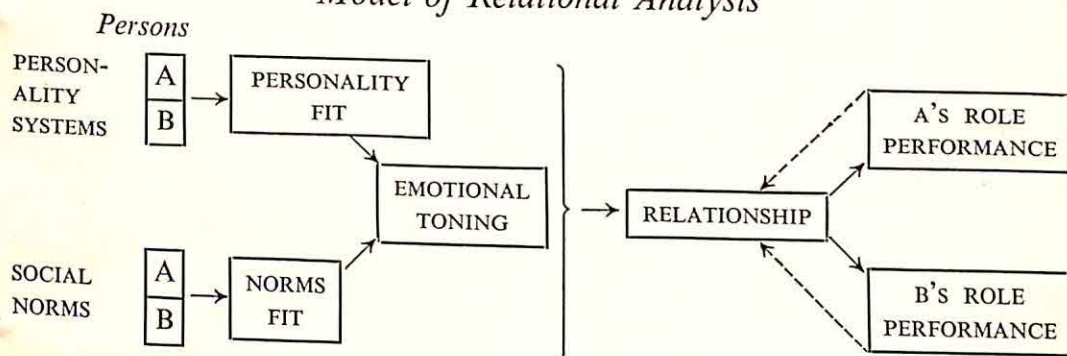
None the less, despite their new cognitive perspectives and their closer agreement on norms, the fit of their personality needs did not fundamentally change, and the improvement of the emotional climate proved short-lived. Their underlying needs proved too intractable and the relationship soon deteriorated to its previous state of strain, alienation, and defaulted role performance.

The foregoing discussion indicated that at least three aspects of the relations between a patient and his intimates may affect his role performance. These variables include: (a) the fit between their social norms about their roles; (b) the fit between their personality systems, including needs, modes of gratification, and ways of

dealing with anxiety or frustration; and (c) the emotional climate resulting from these fits in sustained intimate interaction. These three sets of variables may affect role performance by (i) increasing or decreasing consensus on expectations; (ii) stimulating or discouraging motivation to perform; and (iii) facilitating or reducing the opportunity to gratify needs and to perform adequately vis-à-vis common goals.

The relationship among these three sets of variables is schematized in *Figure 1*.

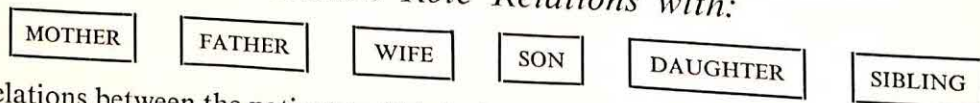
Figure 1
Model of Relational Analysis



While this figure delineates a framework for a relational analysis, it does not specify particular variables within each category, e.g. of norms, personality, emotional toning. These can be varied according to different problems. For example, psycho-analytically derived categories of sexuality, aggression, and ego-defence mechanisms might be useful for typing personality dynamics. In the area of norms, regardless of the referents required for particular problems, it is essential to distinguish between people's norms of prescription and norms of personal option in order to localize therapeutic problem areas. Role performance might be expressed in terms of various prerogatives and responsibilities. In our own data, we have not yet gone beyond global judgements of strain and harmony in the analysis of emotional toning. The most useful sub-categories in each of these dimensions depend on the nature of a particular therapeutic programme and the most problematic type of cases that warrant intensive study.

The paradigm has been presented here to illustrate the relations between two people. In practice, however, it is essential to have a full, accurate map of the therapeutic resources and weaknesses in a patient's larger family field. These data can be mobilized by a careful examination of the patient's relationships (in terms of the paradigm) with each of his intimates in turn, as *Figure 2* indicates. Thus *Figure 2* assimilates a series of analyses shown in *Figure 1*.

Figure 2
Patient's Role Relations with:



Relations between the patient and his father in *Figure 1* would constitute the second cell in *Figure 2*. In this fashion one can examine the patient's total role behaviour

as it is distributed among his array of family relationships, or what Merton has called a 'role set'. The analysis of his respective relationships allows an initial discrimination between pervasive and localized problems and the location of actual and potential sources of strain and support in the family environment. In this sense, the untapped therapeutic potentials (as well as the endemic irritants) in the family can be clarified and mobilized more systematically than usual into the treatment programme.

Of greater refinement and possibly greater therapeutic value is the extension of this mode of analysis to the patient's role performance in *three-person* relationships. We are here specially concerned with the patient's behaviour in relation to the interaction between two *other* family members. For example, how does he respond to the relations between his parents, between his wife and child, between his wife and mother, etc.?

Such an analysis requires the extension of the simple interaction matrix of *Figure 2* to the next level of complexity. This is shown in *Figure 3*, whose cells indicate the interaction of two of the patient's significant others. The hypothetical family is that of a male patient living with his mother, father, brother, wife, and daughter.

Figure 3

Patient's Role Performance in Response to Relations between:

	FATHER	BROTHER	WIFE	DAUGHTER
MOTHER			X	
FATHER				
BROTHER				
WIFE				

In this matrix, the other family members are represented as interacting with one another (in pairs in the respective cells), and the patient's responses to the network of relations in his environment can then be observed.

We will illustrate a fragment of such material with the patient's response to the interaction between his wife and his mother (the cell marked with an X in *Figure 3*).

Case 2. The Fishers are a young couple who live with Mr. Fisher's parents. Don, the husband, grew up in the familiar over-protective pattern of a 'mother's boy'. His mother's dominance and sheltering care always kept Don close to home and fostered in him a general passive dependence, immaturity, and indecisiveness in meeting life's normal problems. He married a fairly active, decisive girl who represented mainly a mother-substitute to him. He sought from her the indulgence, the care, and the gratification of his infantile needs that his mother customarily provided. Thus, even after his marriage he had essentially similar expectations of both mother and wife. His mother, loath to relinquish her position in his affections, regarded her daughter-in-law as little better than an intruder. Don's wife, on the other hand, viewed his possessive mother as a major obstacle to Don's acceptance of adult responsibilities. The two women in the house were virtually in the position

of competitors for Don's primary loyalties. They continually disagreed and fought about Don's proper place and activity in the house. The antagonism between them rose to periodic heights of tension and strain.

Don was caught in the cross-fire of this conflict, and he was unable to resolve his dependency on and affection for both women. His indecisiveness was only intensified by his characteristic passivity in situations that demanded initiative and action. Consequently, at moments when Don might have resolutely settled this unstable situation, he fled. The fights between the two women touched upon Don's deepest emotional problems and aroused paralysing anxieties about his helplessness in the situation. He typically fell back upon his usual defence of withdrawal from problem situations.

His response to the endemic strain had a direct effect on the emotional climate of the marital relationship, which further inhibited Don's role performance in the family. His need for security kept him increasingly homebound and dependent so that he was less and less able to leave the house for ordinary purposes. He could not visit friends and relatives, nor take his wife out, nor attend to routine matters with social agencies, nor have other community contacts that would normally be his concern. This restriction of his activity threw more and more of his responsibilities on to his wife which contributed to the growing tension between them. Ultimately his anxiety and inhibition spilled over into the occupational sphere and he was no longer able to continue working. This point marked the climax of his regression and breakdown.

Other data not included here allow the materials of the triadic relationship to be analysed according to the same categories (*Figure 1*) that are used in the simpler two-person analyses (*Figure 2*).

The analysis of the patient in triadic relationships is both psychologically and sociologically relevant, especially for the family problems of an emotionally disturbed population. From the psychological standpoint triadic relations play a central role in personality development, and may be crucial in any residual, unresolved emotional difficulties that are relevant for treatment. In the treatment of Don Fisher (Case 2 above), for example, it is useful to understand how the patient's particular emotional difficulties and the family problems reinforce and intensify one another. This is especially relevant whenever fairly inflexible triadic relationships in the family set limits on realistic therapeutic goals. This is underscored by some psychiatrists' belief that the family member who actually breaks down and becomes a patient is often not the sickest person, but simply the one with the least effective defences. Hence, the psychiatric casualty is partially an 'innocent bystander'. Further, the patient's responses to psychic equivalents of the Oedipal and sibling situations are particularly useful for diagnostic purposes, as well as for the formulation of a suitable therapeutic programme. Viewing the patient in a complete range of triadic relations with his intimates provides an added check beyond the superficial appearance of his problems as a precaution against snap diagnoses and the stereotyping of patients, which is a particular hazard in short-term, non-intensive therapy. Thus, triadic situations can magnify sensitive areas of the patient's own problem, or what he brings into the situation.

At the same time the patient's reactions are also sociologically important for the functioning of the family. Triadic relationships tend to be inherently more unstable than dyadic ones (10, pp. 145-69 and *passim*; 2), and because so much of

family life is played out in triadic rather than dyadic terms, his responses to their pressures may have marked repercussions on family functioning. Consequently, the effects on the family of his reactions in these situations warrant careful scrutiny.

CONCLUSION

An orientation of the kind outlined here is useful as a common frame of reference for otherwise disparate clinical case reports, especially in combining the most relevant sociological and psychological materials into a single comprehensive picture. There is growing consensus that an effective understanding of even a single *special* area, such as patients' work relations, requires additional information about the patients' *other* relationships. The trend, especially in the social-psychiatric field, is away from treating the patient alone toward the development of techniques for treating the patients' relationships. The collection of research materials that systematically focus on the relationship as the unit of analysis may help to point the way for dealing clinically with patients' relationships as the unit of treatment.

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BIOGRAPHICAL NOTES

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Prediction of Small Group Behavior from a Body Image Schema

SIDNEY E. CLEVELAND AND SEYMOUR FISHER

ALTHOUGH extensive work has been done in investigating the characteristics of group behavior, little experimental work is available relating individual personality traits to group functioning. This point has recently been highlighted by Haythorn (11), among others. In his attempt to alleviate this situation he was successful in establishing some individual personality correlates with group activity. For example, he found that such individual traits as insight, cooperativeness, and efficiency, as measured by Cattell's Personality Factor Questionnaire, promoted group functioning. On the other hand, 'striving for individual prominence' (ascendancy *v.* submission) reduced group cohesiveness and friendliness. Bell and French (2) also working with the Cattell scale concluded that individual characteristics measured by this scale accounted 'for over half of the variance in leadership status within the average small group'. Using more common clinical measures such as the Rorschach Test, Bass, *et al.* (1) were able to find Rorschach predictors of 'Leaderless Group Discussion' behavior. A large number of responses on the Rorschach or a record rated as 'highly energetic' or as having 'strong imagination' were all identified with active LGD behavior. On the other hand, ratings on the basis of clinical data have not always been found significantly related to group behavior ratings. In a study reported by Fouriezios, Hutt, and Guetzkow (9), in which the present senior author participated as a clinical judge, ratings of individual personality needs on the basis of clinical data were found to be unrelated to the same ratings on the basis of group behavior. A large and extensive literature on small group behavior will not be reviewed here. Several excellent summaries exist; for example, Bales, Borgatta, and Hare (10), Borgatta (3), Deutsch (6), and Roseborough (14), offer such reviews. Regardless of which position is taken as to the importance of individual and situational factors in influencing and determining small group behavior, there is a strong continuing need for more understanding of the relative contribution from both sources.

The present paper reports a series of studies of small group behavior that have evolved from previous work with an individual personality concept, that of the body image. In these previous studies (7, 8) it had been found that individuals differ markedly in the degree to which they conceive of their body image boundaries as distinct and well defined *v.* vague and poorly defined. The body image variable presented here is derived from the Rorschach Test. This measure is based on the number of instances in which the individual produces Rorschach percepts whose boundaries are clear cut and well defined. For example, such responses as 'knight in armor' or 'a cave with rocky walls' would be examples of percepts with distinct peripheries. This measure is referred to as the 'Barrier Score'. Previous work (7, 8) demonstrated that individuals vary widely in their tendency to produce these responses. Each population studied was divided arbitrarily at the median Barrier

Score for that group. Subjects scoring above the median were regarded as having high Barrier Scores. Subjects scoring at or below the median were considered low on the Barrier Score index. In normal college populations such as those reported in the present paper, subjects consistently range from 0 to 12 Barrier responses with a median of 4 responses. The effect of total productivity on the Barrier Score is controlled by limiting each subject to 24 responses, using the group Rorschach method. Previous work (7) has also demonstrated the scorer reliability for this scale to be in the .90-.95 range.

Earlier studies also established some of the behavioral and personality correlates of this body image index. For example, in one project (7) it was found that individuals with high Barrier Scores are more likely to develop psychosomatic symptoms involving the exterior layers of the body than individuals with low Barrier Scores. Boundary definiteness was also found to be linked significantly with such variables as high level of aspiration, ability to tolerate stress, need for task completion, and ability to resist suggestion. From all of these studies it gradually appeared that the individual who perceives his body as having firm, clearly defined boundaries is one who dedicates his life to getting ahead and establishing himself as an independent person, well differentiated from others.

Since interesting and significant differences between individuals with contrasting body image characteristics had been found, the question arose as to how such contrasting individuals would differ in their behavior in small group interaction. Specifically the question was posed as to whether a small group composed entirely of individuals with high Barrier Scores would differ significantly in behavior while carrying out assigned group tasks from a group with members having low Barrier Scores. Study of the literature suggests that there has been little or no work done in this direction; namely, the formation of 'pure' groups on the basis of some personality variable and the subsequent evaluation of the differential character and behavior of such groups.

In the present experiment two predictions were made about the behavior of the groups under study. The first prediction has to do with the degree of high aspiration and achievement orientation displayed by the groups. This aspect of group behavior was selected for study because it is a highly important factor in nearly all types of group functioning. The ability to predict the kind of group that will 'get things done' is especially valuable. Many studies (1, 11, 14) have been devoted to this aspect of group behavior, reflecting the widespread interest in group achievement. As has been mentioned, previous experience with the body image concept established that high Barrier individuals show the greater concern with achievement and high aspiration in comparison with those scoring low on the Barrier index. Accordingly, in the present study it was predicted that groups composed of high Barrier members would show a relatively higher degree of concern about achievement and success in the course of carrying out a variety of group tasks.

A second prediction involves the degree of interest and concern shown by the high v. low Barrier groups in respect to the value of the individual and his importance in human relations. In this case, a comparison was made between a philosophy of humanitarianism on the one hand, v. the alternate view that human relations are relatively unimportant and that human behavior is regulated by external and impersonal forces. Interest in this subject arose from the observation

in earlier work that individuals differing sharply in their body image schema also differ in their broad philosophy of life. High Barrier individuals were found to be more dedicated to the feeling that it is the individual and his own efforts that determine his fate. This kind of philosophy also involves the idea that it is not external or impersonal forces that dominate human behavior but rather the nature and degree of interpersonal relations involved. On the other hand, those scoring low on the Barrier index adopted a much more passive, fatalistic outlook on life. The individual and his importance were of little interest to them. This distinction in orientation toward life would seem to be an important one for any group activity having to do with how human beings get along and relate to one another. For the purposes of this study, the prediction was made that, in comparison with the low Barrier groups, those groups with high Barrier members would show the greater involvement in a kind of humanitarian philosophy of life.

METHOD

Three separate studies were conducted. The first two populations investigated consisted of university students. A third population consisted of student dietitians at the Houston Veteran Administration Hospital. Group Rorschachs were administered to each population. These were then scored in terms of the previously described body image index. All Rorschach records were held equivalent as to the total number of responses by limiting total production of each subject to 24 responses. Thus, three responses were obtained on Cards I, II, III, and VIII; two responses were obtained on the remainder. Subjects who varied widely on the body image index were then selected to participate in the small group experiments. Two basic small groups were set up in each of the subject populations. That is, for each population studied there was one small group consisting of individuals with uniformly high Barrier scores. A second group was established composed of members with a relatively less distinct body image concept, those scoring uniformly low on the Barrier index. The groups ranged in size from five to eight persons. Within any given subject population the groups contained the same number and sex distribution. All the subjects were women, with the exception of one of the university populations where each small group contained one man.

Each group was brought together and assigned tasks designed to elicit a range of behavior. All the groups were asked to perform the following tasks: 1. To make up as a group two spontaneous stories. That is, all members of the group were to work together and construct stories they could agree on. 2. To discuss as a group the question of what makes for success in our culture. They were to decide together the five most important traits needed for success. Each group was observed by one or other of the present authors. Detailed notes were made of how each group proceeded in carrying out its tasks. The stories and discussion material were recorded verbatim, as far as possible. In addition to the two tasks previously described, the student dietitian groups were asked to discuss two other problems. One of these additional discussion topics had to do with working-relations with kitchen employees. The students were asked to discuss ways of improving relationships with kitchen personnel. They were to agree on and list five means of bettering such working-relationship. A final discussion topic concerned means of establishing good relationship with ward patients. Again the students were asked to agree on

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and list five methods of improving such relations. These additional tasks were required of the dietitian population in order to obtain more complete and varied data on their philosophy about how people get along together.

This procedure was employed for each of the three separate subject populations. Each population investigated comprised a separate study, and several weeks intervened between each experiment. Thus one may view the entire project as consisting of one original exploratory study followed by two efforts at cross-validation and confirmation.

Four experienced clinical psychologists were asked to evaluate the spontaneous stories and discussion material. Each rater worked independently and without knowledge as to which of the small groups produced the data. The procedure was for one of the present authors to read randomly to a rater the various stories and discussion formulations of the groups. Following the reading of any pair of stories or discussion-material summaries, each judge made two ratings having to do with the previously described original hypotheses of this study. First he indicated which of the two stories or discussion records revealed the more interest and concern with themes of high aspiration and achievement. Second, he rated the same data as to the degree of concern with the philosophy of humanitarianism; i.e. the idea that personal relationships and human dignity are of paramount importance in human behavior.

In addition to the four individual judges used, two groups of judges also made the same evaluations. Raters working as a group were originally employed, as it was felt that the material produced by the small groups was too complex for individual analysis. However, experience soon proved that independent raters could analyse this material without difficulty. One group of raters consisted of three clinical psychologists other than those who had acted as individual judges. This group rated the assigned material from one of the university populations. A second group of judges was made up from student dietitians not involved in the group study. These judges evaluated the group material from the student dietitian population. All of the judges were informed at the outset only as to the number and sex of the individuals comprising each group.

The four individual judges then proceeded to make a total of 20 separate 'yes-no' decisions. The group of judges who rated only the material from one student population made a total of six separate judgements. The dietitian judges who rated only the group material from the student dietitian population made a total of eight ratings.

RESULTS

The first and most obvious finding that emerged from this series of studies has to do with the pattern of participation in each of the small groups. Those composed of individuals scoring high on the Barrier index showed a consistent pattern of equal participation. Each person sought to express his views and no one individual emerged as a definite leader. There was much cross-discussion and a large volume of talk. Furthermore, the atmosphere was free and there was a great deal of kidding and joking. Themes of hostility or sex that usually stir up anxiety in groups were discussed in an open and relaxed manner. On the other hand, the groups comprising individuals with a less distinct body schema behaved differently. In these groups the

members tended to sit passively and wait for one individual to take the lead and to tell the group what to do. The volume of talk was limited and little spontaneity was evident. Joking about sexual topics or discussion of hostile behavior was absent. The atmosphere was somewhat like that of a classroom in which the pupils wait for instructions from the teacher. Consequently, the spontaneous stories of the low Barrier groups tended to consist of a series of discrete episodes offered by separate individuals. In the case of the high Barrier groups the stories were much better integrated and more obviously a cooperative venture. The atmosphere in the latter groups may be characterized as being more democratic, spontaneous, and lively than in the low Barrier groups.

In *Tables 1* and *2* the results of the ratings of the group stories and discussion material are presented. It will be noted that the four individual judges and the two groups of judges demonstrated a high degree of uniformity in their ratings. It will be recalled that each rating involved a simple 'yes-no' choice. By chance alone each judge or group of judges would have placed only one-half of their total number of ratings in agreement with the experimenters' hypotheses. *Tables 1* and *2* reveal

TABLE 1 JUDGES' RATINGS OF GROUP STORIES AND
DISCUSSION MATERIAL ON ACHIEVEMENT-
ASPIRATION

<i>Rater</i>	<i>Total Number of Judgements</i>	<i>Number of Judgements in agreement with original hypothesis</i>
<i>Judge 1</i>	10	10
<i>Judge 2</i>	10	10
<i>Judge 3</i>	10	9
<i>Judge 4</i>	10	7
<i>Psychologists' Group</i>	3	3
<i>Dietitians' Group</i>	4	4

TABLE 2 JUDGES' RATINGS OF GROUP STORIES
AND DISCUSSION MATERIAL ON
'HUMANITARIANISM'

<i>Rater</i>	<i>Total Number of Judgements</i>	<i>Number of Judgements in agreement with original hypothesis</i>
<i>Judge 1</i>	10	10
<i>Judge 2</i>	10	10
<i>Judge 3</i>	10	9
<i>Judge 4</i>	10	6
<i>Psychologists' Group</i>	3	3
<i>Dietitians' Group</i>	4	4

that two judges made their ratings in complete agreement. One judge disagreed on two decisions, one on six, and the two groups of judges agreed perfectly on a smaller number of ratings. Examination of these two distributions of ratings by chi-square analyses yields chi-square values of 16.0 in the case of *Table 1* and

chi-square of 16.5 in the case of *Table 2*. Chi-square values of this magnitude are significant beyond the .001 level of confidence, assuming one degree of freedom. In both of these analyses the total distributions of judges' ratings on each variable were placed in a fourfold table. The actual ratings of the judges were compared with a chance distribution of the ratings assuming that by chance only one-half of the ratings would have been in one direction.

The results of these analyses demonstrate that judges working on a blind basis were in agreement far beyond chance expectancy in recognizing the stories and discussion material as having definitely contrasting features. In line with the experimenters' original hypotheses these raters named the productions of the high Barrier groups as having the greater concern with themes of high aspirations and achievement. Second, they were in agreement with the authors in recognizing the stories and discussion material of the high Barrier group as being more focused on a humanitarian philosophy than is the case of groups with members characterized by low Barrier scores.

OBSERVATIONAL DATA

The individual raters who evaluated the group productions made some interesting comments in a consistent manner concerning the groups. Three of the four individual judges made the spontaneous remark that they would rather have as personal friends members of the high Barrier groups. This choice seemed to be based on the observation that these subjects expressed themselves more freely and with greater emotional latitude than did the low Barrier groups. This comment by these judges is important since it tends to support the prediction that the high Barrier groups manifest relatively greater interest in human relations and in the importance of the individual. Apparently some of this same feeling was communicated to the judges and influenced them in their preference for members of these groups as personal friends.

Two other items of observational data are especially pertinent to the study. One of the university populations studied decided early in the semester and prior to the present project that a class grade of 'A' would be granted only those individuals who did extra work and wrote a term paper, all other class members were to receive a grade of 'B'. This was a course devoted largely to the study of group dynamics. The class members were encouraged to make these group decisions as part of their examination of group dynamics. At the end of the semester only eleven students in the total class of 40 volunteered to write a term paper. Of these eleven students, nine had been classified previously by the experimenters as high Barrier people. This unplanned but convincing item of data is important since individuals later classified by a body image schema as being achievement-oriented were practically the only ones in a large class actually to carry through to completion a goal set by the larger group.

A final piece of observational data concerns the second university population studied. This class demanded and was given a class hour following the experiment in which they asked questions of the experimenters concerning the nature of the study. Members of the high Barrier group took over and dominated this meeting. They were persistent and intense in their questioning of the present authors. This kind of behavior within another type of group setting is further evidence of the assertive nature of the high Barrier group members.

CONTENT OF THE GROUP PRODUCTIONS

The ratings and observational data yielded some clear differences in group behavior and attitudes between the high and low Barrier groups. An even more graphic illustration of the contrasting philosophies held by these groups can be found in the actual group productions. First, the spontaneous stories told by these groups provide an interesting contrast in content and theme. For example, in one of the university populations the high Barrier group told the following story: 'Individual has grown up and finds he was an orphan. He's a politician, just starting his political career. They begin to smear him. He traces back and finds he's the illegitimate son of King George. He's going to show that heredity doesn't make a man bad. Even though he's from a stupid family, he does well. Horatio Alger story.'

By way of contrast, the following story was told by the group with low Barrier members: 'An old squeaky house, no one lived there, all hidden by brush; haunted, mysterious people used to live there. They had a candle burning in the window and it still did after they left. It would burn every night. One day two kids decided to go up there. They found the candle and got scared and ran away. A man came along and wondered why they were running, He was the son of the people who burned the candle and he came home the night they died in an auto accident. He never saw his parents and he put a candle in the window for them. It burns all the time for them.'

These stories point up a number of interesting and differentiating aspects between the two groups. In the former story, given by the high Barrier group, the theme of struggle against odds, even against heredity, is apparent. A theme of achievement and success highlights the story. A certain degree of humor and saucy impertinence toward authority is also apparent. Most important of all is the idea that the individual gets something done and changes his status only through his own efforts. In contrast the second story, produced by the low Barrier group, contains no theme of achievement or success. This is a far more disorganized and aimless story. People behave in a certain way not from any inner conviction of good orientation; rather, they do what tradition and custom have established. Thus the man burns the candle in a window in some kind of fixed ritual.

Even more striking in differentiating the high and low Barrier groups were the special discussion tasks added to the total assignment of the student dietitian groups. Here the two small groups were given special discussion topics pertinent to their own activities. Thus they were asked to discuss ways of getting along better with kitchen employees and with ward patients. These discussion topics were assigned to elicit in greater detail the respective viewpoints of the two groups in regard to interpersonal relations. The group with high Barrier members listed the following five suggestions for better working-relations with kitchen employees: 1. Be friendly. 2. Be interested in them. 3. Know theory of dietetics. 4. Compliment employees when they make a correct decision. 5. Pitch in and help.

In contrast to these suggestions, the group with low Barrier members offered the following five methods of improving working-relations with kitchen employees: 1. Kitchen employees should have more training. 2. Better schedules for them—expect them to be at work and not leave early. 3. More supervision for them. 4. Better understanding of where employees' job leaves off and dietitians' begins. 5. Development of better attitude on their part.

The attitudes expressed in these separate group discussions are in nearly complete opposition. Among the five suggestions made by the high Barrier group, the entire emphasis is placed on consideration of the employee as an individual. Respect is expressed for his importance, and his feelings and reactions are recognized. Contrast this philosophy with that contained in the five suggestions made by the low Barrier group. Here the emphasis is on greater structuring of hierarchical relationships. The individual and his feelings invite no interest. Rather the position is taken that personal feelings are unimportant. People get along best when strict codes of conduct are established. The distinction in these two opposing frames of reference is sharp. The judges, for example, were unanimous in their ratings of this variable in the dietitian groups.

DISCUSSION

It is clear from the results that the extreme groups do differ in their conception of how people make their way in the world. Two distinct patterns of group interest and interaction emerge. These patterns are sufficiently broad to justify referring to them as representing two different philosophies about human behavior and personal interrelations. One type of philosophy emerges from the behavior and attitudes expressed by the groups composed of members with a body image schema of firmness and definiteness. Assertiveness, self-initiative, and achievement orientation characterize their approach to their environment. Not only do they talk more in their group discussions about getting things done, these same groups were also observed to indulge in the greater amount of interaction, free expression, and initiative in contrast to the groups with low Barrier members. This proved to be true not only for the planned group meetings but also for other group activity outside the experiment proper. This display of assertion and initiative took place without the guidance or prodding of a leader. In contrast to this pattern of group interaction is the type of interchange observed in the groups with members having a less clearly defined body image schema. In these group meetings a more passive and inert kind of group interplay occurred. Members tended to sit back and await the emergence of a leader who then structured their mode of conduct for them.

It should not be assumed that high Barrier groups are aggressive in the sense of being inconsiderate of others. Rather their life style also includes a high regard for the importance of the individual. Interpersonal relations are seen as ordered along a feeling basis rather than controlled by hierarchical rules and regulations. At first glance this tendency of the high Barrier groups to show so much interest in the welfare of the individual may seem paradoxical. Why should aggressive and striving groups pause to consider the interests of others? One explanation may be found in the nature of the body image schema shared by the members of these groups. If it is assumed that a distinct body image schema implies definiteness of one's own purpose in life, then such individuals should experience relatively little threat in their interactions with others. This explanation becomes even clearer when the pervading philosophy of the low Barrier groups is examined. This philosophy emphasized the strict hierarchical structuring of human relations. People were seen as behaving in a certain way not because of individual assertion, but rather according to tradition or because it was 'the thing to do'. Subordinates such as kitchen help were to be encouraged in their work not by the dietitians becoming more

interested in them and liking them as people, but by establishing stiffer rules and regulations. In this case it may be assumed that a body image schema based on indefiniteness and vagueness implies uncertainty and apprehension as to purpose. It is not surprising that in this case the emphasis is placed on establishing some kind of external firmness and structure in the guise of rules and codes of conduct with which to order interpersonal relations. Such ordering of people reduces the possibility that they can do unexpected things against which there seems to be no defence by the individual in terms of his own strength.

One is at once impressed by the similarity of some of the present findings with formulations advanced by other investigators concerning the nature of individual and group behavior. For example, one would expect to find considerable overlap of the high Barrier traits with McClelland's concept of 'need-achievement'. In a previous study (8), the present authors did find a relationship of marginal statistical significance between magnitude of n-achievement score and Barrier score. It is also of interest to note that McClelland reports that his high achievers struggle for good grades and volunteer for extra assignments. In the present study this same behavior characterized one of the sub-groups of high Barrier subjects. Apparently the area of commonality between these two concepts has to do with the degree of aspiration, drive, and active self-expression displayed.

Perhaps even more striking is the analogy the behavior of the high and low Barrier groups bears to Riesman's (13) inner-, outer-, and tradition-directed types. Considering the completely disparate data from which Riesman evolved his typologies as compared with the present study, one is all the more impressed by the similarities evident. For example, the inner-directed person is considered by Riesman to have acquired early in life a kind of internalized 'gyroscope' enabling him to chart a relatively independent and stable course in life. These individuals are thought to rely but little on external codes and traditions for guidance but rather guide themselves by a strong, inner goal-directed sense. Such persons are even 'at home abroad' because of this strong inner psychological gyroscope. The analogy to the high Barrier group members of the present study is readily apparent. Riesman goes on to describe the case of tradition- and other-directed types where behavior is guided by external social codes and traditions or by the opinion and direction of friends and associates. In the present study low Barrier groups appeared to rely on much the same kinds of external codes of conduct. While it is not possible here to examine all of the complexities of Riesman's theories, many other interesting similarities to the present study are to be found.

Of course the present groups studied represent a special situation. Members were carefully selected in order to maximize group differences in behavior. Only further research with this body image variable can determine the extent to which these findings can be generalized for less saturated groups. Unanswered, also, is the question as to the effect on group behavior of intermixing various kinds of body image types. In any event the present study has shown that an individual personality variable has relevance for some aspects of small group behavior. In part this proved true since the body image variable selected for study provides a measure of the degree to which individuals establish boundaries about themselves. In a sense the body image index furnishes an understanding of the way in which the individual sets himself off from others. The definiteness or lack of definiteness of one's boundaries is indicated by the body image schema. Even though this body image variable is an individual personality measure, implied in the concept is the notion

of how the individual structures his relations with others. Does he set himself clearly apart from others and thus, with his own boundaries clearly defined, feel free to interact with others? Or, on the other hand does he have difficulty in setting himself off from others and therefore seeks some kind of external structuring of personal interactions which will artificially supply this separation?

SUMMARY

In previous experiments a body image schema was found to be related to certain personality variables. This body image schema was based primarily on the Rorschach Test. Individuals with a body image characterized mainly by ideas of peripheral firmness and definiteness were found to be achievement-oriented, physically active and energetic, and with a high aspirational level. Individuals with a body image consisting of peripheral vagueness were more passive, less tolerant of stress and significantly less success-oriented. As a result of these findings the present study was designed to evaluate the significance of this body image index for small group behavior. The Rorschach Test was administered to three separate subject populations. Two small groups from each of these populations were formed. In each study one group was composed of members with a distinct body image schema. Each small group performed a number of tasks: 1. To make up jointly two spontaneous stories. 2. To discuss jointly the topic of what makes for success in our culture and to list the five most important traits needed for success. The present authors served as observers and recorders.

Two predictions were made about the group behavior: 1. Groups with members having a firm body image schema would show the greater concern with ideas of high achievement. 2. Groups with firm body members would also demonstrate the greater concern for a humanitarian philosophy of life, i.e. the idea that the individual is important and that the individual's destiny is determined by his own efforts, rather than through impersonal and external forces. Four clinical psychologists acting as judges and two groups of judges rated the spontaneous stories and discussion material of the groups for these two categories. The judges were in agreement in their ratings and in the direction predicted far beyond chance expectancy. The relevance of these findings for the study of small group behavior is discussed. It is concluded that a knowledge of an individual's body image schema does have predictive value for some aspects of group behavior.

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BIOGRAPHICAL NOTES

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Some Psycho-Social Characteristics of Satisfied and Dissatisfied British Immigrant Skilled Manual Workers in Western Australia

ALAN RICHARDSON

I. INTRODUCTION

SINCE 1947 when the United Kingdom-Australia Free and Assisted Passage Scheme was started, slightly more than a quarter of a million British immigrants have arrived in Australia under its auspices. This is approximately half the total number of British immigrants and about a quarter of the total immigration for the period January 1947 to October 1955. The vast majority of the British immigrants have adjusted themselves to a greater or lesser extent to the demands of life in Australia. Only a small number have actually returned to Britain. However, among the British immigrant population in Australia a wide range of differences in degree of satisfaction may be expected to exist. As no study is known to the writer in which any of the psycho-social characteristics of satisfied and dissatisfied British immigrants have been contrasted, it was felt that the material reported in this paper would be of interest.

From a total of 34 male, white, married skilled manual workers of British birth who had been living in Western Australia between May 1952 and May 1953 a selection was made of the 10 most dissatisfied and of the 10 most satisfied. The original 34 immigrants were some of those who had been interviewed as part of a study (Richardson, 4) designed to measure the degree of convergence towards Australian norms of the social attitudes of groups of British immigrants who had been resident in Australia for varying periods of time. The minimum period of residence for those in the present samples was 7 months and the maximum 12 months. At the time of interviewing all the immigrants had been living in the same Commonwealth Hostel in Western Australia since their arrival.

II. CRITERIA FOR DISTINGUISHING SATISFIED FROM DISSATISFIED BRITISH IMMIGRANTS

The data on which all the results reported in this paper are based come from a self-administered questionnaire which formed part of the study mentioned in the preceding section. The 10 most dissatisfied and the 10 most satisfied immigrants were selected on the basis of criteria shown in *Tables 1* and *2* respectively.

Where two or more of the criterion questions have been answered in a way that

TABLE 4 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS IN RESPONSE TO THE QUESTION: 'WHAT WERE YOUR MAIN REASONS FOR COMING TO AUSTRALIA?'

Code Numbers	Responses
<i>Satisfied Sample</i>	
1.	' <i>England's increasing population</i> ; collective security and strengthening Commonwealth blood ties; belief in good opportunities offered by a young country; good climate; free enterprise.'
2.	'For a better standard of living; give the children a better chance in life.'
3.	'To offer my services to the Commonwealth.'
4.	'A better way of life; better weather; a brighter future for my children.'
5.	'Better opportunity for sons; <i>England is now overpopulated</i> ; Australia has everything to offer if it had the populace to work it to the full.'
6.	'A better living if possible.'
7.	' <i>Excessive taxation in England</i> ; <i>penalized for being thrifty</i> ; an economic education for my daughter.'
8.	'Higher standard of living; better climate.'
9.	'To give my children a better chance; <i>England in a rut</i> ; better working conditions as regards wages.'
10.	'For better living standards.'
<i>Dissatisfied Sample</i>	
1a.	'Hoping for a better future for myself, wife, and children.'
2a.	'Financial betterment.'
3a.	'Hopes of future for children; chance of obtaining a higher standard of living.'
4a.	'Belief that there were less restrictions and better opportunities.'
5a.	'Supposed plentiful work, wages, and conditions, which have yet to be found.'
6a.	'More opportunity for self and children.'
7a.	'To start a new life.'
8a.	'I thought that there would be greater opportunities in Australia for the children.'
9a.	'Better weather.'
10a.	' <i>Fed up with red tape and rationing</i> ; also in event of third world war I did not want my baby to suffer like they did during bombing of London.'

leaving Britain and emigrating to Australia. They are both seeking better opportunities for themselves and their children. The only directional difference appears to be the satisfied immigrants' tendency to mention some negative characteristic of England (shown by italicized statements in Table 4) compared to the dissatisfied immigrants' greater stress on the hoped for opportunities in Australia.

A variable that might have had some bearing upon the tendency to be satisfied or dissatisfied with life in Australia is the amount and type of culture contact that has been had prior to emigration. However, not one of the immigrants in the satisfied and dissatisfied groups had ever been in Australia before; and there were only 3 satisfied immigrants who had friends or relations in Australia before they arrived, compared to 4 of the dissatisfied immigrants. All 4 of the dissatisfied immigrants had corresponded with their friends or relations compared with 2 out of the 3 satisfied immigrants. From this it appears that knowing someone in Australia before leaving Britain does not seem to have played any significant part in the tendency to feel either satisfied or dissatisfied as far as the members of the present two groups are concerned. It should not be forgotten, however, that the quality of the contact may be quite different for the two samples, and that this may be the significant factor. It is possible, for example, that the friends or relations of the satisfied immigrants proved to be most helpful, while those of the dissatisfied immigrants had let them down in some way.

TABLE 5 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS ON OPINION ITEMS

Item Number	Statement	Number agreeing		Diff.	Level of Significance
		Satisfied	Dissatisfied		
1.	You cannot get on in the world without pull	5	9	4	·094
4.	It is better for people to work for their own security than to expect the government to provide it	9	5	4	·094
12.	Politics should be left to the politicians	8	2	6	·025
15.	All children should be taught a reverence for the Royal Family	10	4	6	·005
40.	Although leisure is a fine thing it is good hard work that makes life interesting and worthwhile	8	4	4	·110
41.	The ordinary family man has little chance of owning a car	5	9	4	·094

There is some evidence to suggest that satisfied immigrants subscribe to a fundamentally 'conservative' and 'puritan' ideology in which the virtues of independence (Item 4), loyalty (Item 15), and hard work (Item 40) are stressed. Dissatisfied immigrants on the other hand are rather less conservative. They appear to be a little more cynical (Item 1) and less prepared to trust (Item 12) or admire (Item 15) the ingroup authorities. It appears that they like neither England nor Australia. Some evidence for this latter statement is shown in *Tables 9 and 12*. *Table 5* gives the opinion items that discriminate between the two samples. Only 2 of these are at an acceptable level of significance, but it is felt that the direction of the other items is of sufficient interest to warrant their inclusion.

V. COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS ON SOCIAL PARTICIPATION VARIABLES

After arriving in Australia it might be expected that those immigrants who engage in social activity with Australians would come to understand and accept Australia rather more readily than those who for one reason or another do not. Some evidence to support this view is found in the differential answers of satisfied and dissatisfied immigrants to the questions in *Table 6*.

TABLE 6 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS ON QUESTIONS RELATING TO SOCIAL PARTICIPATION

Item Number	Question	Satisfied Immigrants			Dissatisfied Immigrants		
		Often	Some-times	Never*	Often	Some-times	Never*
13.	Do you meet your Australian workmates at social gatherings outside work time?	2	6	2	1	5	4
14.	Do you visit the homes of any Australian friends?	3	6	1	1	3	6*
15.**	Do you attend your Trade Union Meetings?	1	7	1	3	5	2
16.	Do you ever bring an Australian friend home for a talk or a meal?	1	6	3	1	4	5

* Significant at $p = < .05$

* Immigrants who responded 'Never' were compared with a combined category of those who responded 'Often' or 'Sometimes'.

** There was one satisfied immigrant who did not reply to Q. 15.

As can be seen from *Table 6*, the general tendency is for the satisfied immigrants to participate more than those who are dissatisfied. However, the only question that is statistically significant is Q. 14 referring to the greater frequency with which satisfied immigrants visit the homes of Australian friends.

Amount of participation is also reflected to some extent by the size of an immigrant's passive vocabulary of Australian words and phrases. It might be expected that the greater the interaction with Australians the greater the passive vocabulary. In accordance with the previous findings on participation the satisfied immigrants tend to have larger passive vocabularies than the dissatisfied immigrants. This tendency, however, just fails to be significant at $p = .05$.

TABLE 7 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS BY SIZE OF PASSIVE VOCABULARY OF AUSTRALIAN WORDS AND PHRASES

Sample	Size of Passive Vocabulary (Max. 25)									
	1. 1a.	2. 2a.	3. 3a.	4. 4a.	5. 5a.	6. 6a.	7. 7a.	8. 8a.	9. 9a.	10. 10a.
Satisfied Immigrants	17	16	15	18	19	17	17	21	15	16
Dissatisfied Immigrants	9	18	12	16	15	20	8	16	22	11

VI. COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS ON ATTITUDE TO AUSTRALIA VARIABLES

The available evidence, Richardson (4), suggests that the immigrant during his first few weeks in Australia has an extremely favourable image of Australia. At about the seventh month after arrival there is a noticeable decline in favourability; and around the twelfth month, though still at a low level, some signs of more positive feeling towards the receiving country may begin to emerge. This evidence comes from an analysis of group trends, and as might be expected there are wide individual differences.

Those immigrants who have been classed as very satisfied with their life in Australia show their favourable image of Australia in a number of different ways. Of the responses to the three questions shown in *Table 8* one of the most important is that which refers to the significantly greater number of satisfied immigrants who are in process of buying a block of land or a house. Though this fact is susceptible of a number of interpretations, it does seem to imply that these immigrants are confident of their future in Australia to the extent of investing money in such a way that they will be able to leave the Hostel and become more independent. Whether the dissatisfied immigrants did not have the capital to invest in this way or whether they were saving it for the return fare to England is not known, but in terms of ultimate settlement the taking of some positive action of the kind exhibited by the satisfied immigrants is probably a most important step and one that may be found in the future to have some prognostic value. As noted earlier there are more satisfied than dissatisfied immigrants in the building trade. Their trade is probably an advantage to them as they are in a better position to do much of the building themselves in their spare time and, of course, at a greatly reduced cost.

TABLE 8 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS ON THE 3 QUESTIONS REFLECTING ATTITUDES TO AUSTRALIA

<i>Question</i>	<i>Satisfied Immigrants (Yes)</i>	<i>Dissatisfied Immigrants (Yes)</i>
Would you like any of your children to marry Australians?	8*	3*
Are you trying to get any of your family or relatives to come out to Australia?	4	1
Have you bought or are you in the process of buying a block of land (or a house)?	7	1**

** Significant at $p = < .01$
* Significant at $p = < .05$

* The other two satisfied immigrants have no children.

An analysis of the items on the Attitude to Australia Scale reveals some of the more specific feelings about aspects of Australian life and Australian people that distinguish the satisfied from the dissatisfied immigrants. These differences are shown in *Table 9*.

TABLE 9 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS OF SIX ITEMS OF THE ATTITUDE TO AUSTRALIA SCALE*

Item Number	Statement	Satisfied Immigrants			Dissatisfied Immigrants		
		Agree	Undecided	Disagree	Agree	Undecided	Disagree
1.	There is equal opportunity for all in Australia	8	—	2	1	1	8***
3.	In Australia people are always prepared to help each other	6	1	3	—	1	9***
9.	Australians are noted for their hospitality	9	1	—	2	2	6***
11.	Australians are well mannered	5	1	4	1	—	9*
12.	Australians neglect the care of the aged and sick	1	1	8	5	4	1**

*** Significant at $p = < .005$
** Significant at $p = < .025$
* Significant at $p = < .05$

* Both degrees of 'Agreement' have been combined to form a single category of 'Agreement' and compared with a similarly derived category of 'Disagreement'. The 'Undecided' category has been ignored.

The nature of the statements in the Attitude to Australia Scale and the responses that are given by the dissatisfied immigrants suggests that, whatever the frustrations have been that produced the state of dissatisfaction, a strong tendency has developed to blame and criticize adversely almost anything connected with Australia.

In the study from which the results reported here have been taken, an attempt was made to measure the extent to which British immigrants held beliefs that they felt were shared by other British immigrants but that they also felt would not be shared by most Australians. A measure of this was obtained and called a Perceived Difference Index (P.D.I.). An examination of the P.D.I.s of the satisfied and dis-

TABLE 10 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS BY SIZE OF THEIR PERCEIVED DIFFERENCE INDEX

Sample	Size of P.D.I.s (Max.=50)									
	1. 1a.	2. 2a.	3. 3a.	4. 4a.	5. 5a.	6. 6a.	7. 7a.	8. 8a.	9. 9a.	10. 10a.
Satisfied Immigrants	14	15	18	4	13	9	17	3	14	9
Dissatisfied Immigrants	25	14	22	27	25	17	24	25	13	12

Difference is significant at $p = < .01$

satisfied immigrants is shown in Table 10 and reveals that the dissatisfied immigrants significantly more often believe that their views and those of other British immigrants differ from Australian views.

From these results it appears that the dissatisfied immigrants are trying to

accentuate their similarity to other British immigrants while at the same time heightening their differences in relation to the Australian community.

Both groups had also responded to a question on the sort of things that had been found to be different in Australia from what had been expected. The findings for the satisfied and dissatisfied immigrants are given in *Table 11*.

TABLE 11 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS IN RESPONSE TO THE QUESTION: 'WHAT WAS DIFFERENT [ABOUT AUSTRALIA] FROM WHAT YOU HAD EXPECTED?'

<i>Code Numbers</i>	<i>Responses</i>
<i>Satisfied Immigrants</i>	
1.	—
2.	—
3.	—
4.	—
5.	—
6.	'Social security; cost of living.'
7.	'One aspect only without doubt—Australians are unwilling to learn, or be taught from immigrants with far superior knowledge.'
11.	'I thought it would have been more advanced but instead I find quite a number of things outdated by years.'
9.	—
10.	—
<i>Dissatisfied Immigrants</i>	
1a.	'The way of life and the amount of work which is definitely not here.'
2a.	'The employment situation. Conditions. Standard of living. The way of life and the people.'
3a.	'The little chance one has to branch out on one's own due to the tight hold that the various rings have on occupations.'
4a.	'Too many restrictions and too much red tape.'
5a.	—
6a.	'Lack of suitable work, lack of overtime. Government lack of interest after arrival. Employers' preference for Australians.'
7a.	(See comment of this immigrant in <i>Table 13</i> .)
8a.	'The climate. The Australians' obvious leanings towards Americans and not toward the English.'
9a.	—
10a.	'My trade is vastly different compared with English plumbing; also numerous other things which requires more space than is available here.'

Though as many of the dissatisfied immigrants were employed in the same occupation in Australia as they had been in Britain, more of them were in the engineering industry, which had suffered a prolonged strike in the previous year. It may in part be this knowledge that caused the dissatisfied immigrants to express so much criticism of the employment situation. However, none of the satisfied or dissatisfied immigrants had actually experienced any unemployment in Australia.

VII. COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS ON PREDISPOSITION TO CHANGE VARIABLES

As can be seen from *Table 12*, there is a tendency, though it is not statistically significant, for the dissatisfied immigrants to believe that *very much* change is necessary in order to settle down and feel at home in the Australian environment. Though most of the satisfied immigrants recognize the need for change only four feel that *very much* change is necessary.

TABLE 12 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS IN RESPONSE TO THE QUESTION: 'HOW MUCH DO YOU THINK IT IS NECESSARY FOR A NEW-COMER FROM BRITAIN TO CHANGE HIS WAY OF LIFE AND HIS ATTITUDES IN ORDER TO SETTLE DOWN AND FEEL AT HOME IN AUSTRALIA?'

Sample	Very Much	Amount of Change		None
		Some	Not Much	
<i>Satisfied</i>	4	4	2	-
<i>Dissatisfied</i>	8	1	-	1

A subsidiary question was asked of all those who gave some indication that change might be necessary; this referred to their feelings about their own ability to change. The responses to this question are shown in *Table 13* and reflect the different attitudes of satisfied and dissatisfied immigrants very clearly. The dissatisfied immigrants tend to make their own readiness to change dependent upon prior changes in their social and physical environment. The satisfied immigrants on the other hand seem to exhibit a much greater awareness and readiness to change some of their ways as a necessary preliminary to acceptance by Australians.

Both Eisenstadt (1) and following him Zubrzycki (5) have discussed the significance of a positive predisposition to change in facilitating the process of assimilation and absorption. In discussing the importance of the different 'role expectations' of immigrants, Eisenstadt writes:

'Among these expectations are attitudes of crucial importance, namely, the extent to which the immigrant expects and is prepared to change his behaviour and undertake the performance of new roles. Some such changes are always expected from him in the new situation. This necessity may, however, run counter

TABLE 13 COMPARISON OF SATISFIED AND DISSATISFIED IMMIGRANTS IN RESPONSE TO THE SUBSIDIARY QUESTION: 'IF YOU THINK SOME DEGREE OF CHANGE IS NECESSARY, HOW DO YOU FEEL ABOUT YOUR OWN ABILITY TO CHANGE?'

<i>Code Numbers</i>	<i>Responses</i>
<i>Satisfied Immigrants</i>	
1.	'I am settling down quite happily.'
2.	It is necessary 'To slow down in work, etc.'
3.	'We British can only try to carry on in the Australian way of life.'
4.	'By putting myself into the position of trying to see the Australian point of view.'
5.	'I think a little degree of change is necessary, but in my own case very little. Having much travelled it doesn't worry me whatsoever.'
6.	'No option.'
7.	'Having travelled, I am confident in my profession. Common sense and experience with my fellow workers. Honesty will always bring its own reward.'
8.	'Generally speaking, I find it quite easy to make whatever change is necessary.'
9.	'I had to get used to different prices and slang words and now I use Aussie slang, and the weather, which I find all right.'
10.	'Just by changing your ways to Australian ways.'
<i>Dissatisfied Immigrants</i>	
1a.	'At the moment I am not sure and in the future I can't say.'
2a.	'I don't think I could change my outlook and my way of life enough to settle here in Australia.'
3a.	'Feel able to adapt to way of life but not to standard of work.'
4a.	'Possible but unlikely.'
5a.	'Will settle if I am allowed my own home life which at present I have not got.'
6a.	'Given some indication of welcome here, change would come naturally.'
7a.	'Unable to get used to the feeling of insecurity and shortage of work, price of land and houses. The only good plan is to put people in houses from the start, that way they have a chance to settle down.'
8a.	'At the moment I think it will be very difficult.'
9a.	—
10a.	'As an old soldier I can adapt myself to any country or climate.'

to the immigrants' expectations and aspirations. In this respect there exists wide variation between immigrants—from total acceptance of this necessity (positive predisposition to change) to total rejection (negative predisposition to change). As this predisposition determines to a very large extent the direction and the tempo of the immigrants' activities and adaptation . . . it is one of the most important variables to be investigated.' (1, p. 226).

It seems very likely from the evidence available in the present study that satisfied immigrants are more inclined than dissatisfied immigrants to have a positive predisposition to change.

VIII. DISCUSSION OF RESULTS

Though the sequence of cause-and-effect relationships is notoriously difficult to establish in studies of the present type, some attempt at interpreting the significance of the results needs to be made.

In what follows the results reported in the preceding pages have been used as evidence in an attempt to reconstruct the process by which immigrants in the present study have become satisfied or dissatisfied with their life in Australia.

(a) *The Dissatisfied Immigrant*

On arrival in Australia the dissatisfied immigrant has very high hopes that the goals that in part motivated his emigration will be realized. It is likely that he did not feel strongly identified with or attached to the social order existing in contemporary Britain. A distrust of established authority is likely to exist, which when transferred to the social setting of Australia may show itself in a predisposition to resist new influences. However, he is likely to expect Australians to demonstrate their friendliness by making the first approaches and by changing their ways to obtain acceptance or status in Australian primary groups on his own terms, good social relationships with individual Australians are less likely to develop.

Minimal communication with Australians is likely to go hand in hand with an inadequate awareness of Australian social norms and a consequent increase in frustration. The effect of living largely among other British immigrants in a Commonwealth Hostel creates further barriers to friendly social contacts with Australians, while at the same time providing increased opportunities for communication with other immigrants who feel equally frustrated. The cumulative effect of all the frustrations, actual and imagined, is manifested in the development of strong negative feelings both to Australia in general and to its people in particular. Australia becomes the scapegoat for all difficulties and the individual ends as a thoroughly dissatisfied immigrant.

(b) *The Satisfied Immigrant*

The satisfied, like the dissatisfied, immigrant arrives in Australia with hopes that the new country will enable him to achieve a better life for himself and his children. His aspirations are, however, tempered by a greater readiness to change his behaviour to fit in with Australian conditions. Because he is more prepared, and perhaps more able, to change, it is likely that he does not experience as frustrating many events that are found to be frustrating by the dissatisfied immigrant. It is likely that he will be less touchy and resentful of authority as such, but nevertheless he is independent and expects to achieve his goals on the basis of his own hard work rather than on the basis of external assistance.

He finds that his readiness to modify his behaviour patterns in accord with new situations tends to gain him acceptance among his Australian workmates and increase the amount of non-working social contact with them. Increased friendly interaction with Australians in turn may lead to a greater awareness of Australian

social norms with a consequent potential increase in identification with the Australian community. As he begins to feel more and more that he 'belongs', he will more and more tend in the direction of becoming a thoroughly satisfied immigrant.

In concluding this discussion it is necessary to re-emphasize that results have been based on small samples and that the interpretation of these results can be only tentative, however plausible they may appear. The general problem of isolating the critical psychological and social factors that determine an immigrant's reactions to the new community into which he has moved clearly deserves more intensive study. It is also felt that the socio-psychological field of immigration research provides a valuable testing-ground for many of the hypotheses relating to group identification, attitude change, and role conflicts that emerge as the result of laboratory study.

IX. SUMMARY AND CONCLUSIONS

It has been the purpose of this paper to investigate some of the differences between a sample of very satisfied British immigrants ($N=10$) and a sample of very dissatisfied British immigrants ($N=10$), and to attempt an interpretation of those differences in terms of the assimilation process. The following is a summary of the main results and conclusions.

1. Satisfied immigrants tend more often to be workers in the building industry.
2. Satisfied immigrants more often exhibit a fundamentally 'conservative' and 'puritan' ideology.
3. Satisfied immigrants significantly more often visit the homes of Australian friends.
4. Satisfied immigrants significantly more often would like their children to marry Australians.
5. Satisfied immigrants significantly more often were in the process of buying a block of land or a house.
6. Satisfied immigrants significantly more often believe that:
 - (a) There is equal opportunity for all in Australia.
 - (b) In Australia people are always prepared to help each other.
 - (c) Australians are noted for their hospitality.
 - (d) Australians are well mannered.
7. Satisfied immigrants significantly less often believe that their views and those of other British immigrants differ from Australian views.
8. Satisfied immigrants show a greater positive predisposition to change.

These results have been interpreted in terms of their probable significance for the general process by which different immigrants tend to become satisfied or dissatisfied with life in Australia. In conclusion, the limited nature of the present results was stressed and the need for further research in the socio-psychological field of immigration was briefly discussed.

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BIOGRAPHICAL NOTE

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Some Characteristics of the Socio-Psychological Life Space of the Epileptic Patient¹

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RESEARCH on how a particular illness or disability tends to affect the person's perception of himself and of his social situation is only in its beginning (3). Recent studies (1, 10) point out that difficulties in the social area may be caused by conditions inherent in the physical disability itself, or may arise from limitations imposed on the disabled person by society. Finally the feelings of the handicapped person about himself and his response to the first two factors affect his social situation. It is obvious that these three factors function interdependently constituting a system of interaction between the person and his environment that is of great complexity. Such a system, comprising the total situation of a person as experienced by him, has been called the 'life space' of the person (7, 9). The life space represents the person in his environment, at a given unit of time, including his action, thinking, wishing, striving, valuing, etc. The present study will employ the term 'life space' and related concepts in an attempt to gain increased insight into some of the interrelations of the socio-psychological forces induced by epilepsy.

Epilepsy is understood today not as a disease entity *per se*, but as a symptom of various kinds of brain pathology amenable to treatment by medication or surgery. Better diagnostic procedures and the development of anti-convulsive drugs have meant a sizeable reduction or elimination of seizures for many patients. From a strictly medical point of view alone, many epileptics could lead a normal or near normal life (4, 5).

However, the socio-psychological situation within our culture has not kept pace with medical progress. Old superstitions and the discouraging experiences of centuries combine to create a 'stereotype' of 'the epileptic', a picture that may vary from that of a person possessed by evil spirits to the more scientific conception of the 'epileptic personality'.²

In the practice of casework with epileptics it becomes evident that many professional people, including social workers, tend to share such stereotyped views, and that referrals of patients may be rejected for such reasons as 'epileptics are practically unemployable' or 'are not good prospects for casework'. Such broad

1. This study was developed while the writer was connected with the Social Service Department and the National Veterans Epilepsy Center, Boston Veterans Administration Hospital, Boston, Massachusetts.

2. That cultures develop stereotypes related to certain physical disabilities has, among others, been stressed by Hines (2).

generalizations indicate that the patient is not accepted as an individual in a specific situation.

The subjects of this study were patients of the National Veterans Epilepsy Center at Cushing Veterans Administration Hospital (now Boston Veterans Administration Hospital). They were hospitalized for diagnostic work-up and treatment. Many patients were followed in the out-patient clinic and some were readmitted for further diagnostic exploration and treatment. The social worker had contact with the out-patients as well as with those on the ward. In many cases relatives also were interviewed.

A discussion group with hospitalized patients seemed to offer particularly significant material and provided a rich, fairly well-rounded picture in the patients' own words of how they saw their total situation.

These varied contacts sharpened our perception of the patients' anxieties and difficulties related to epilepsy, extending over a wide range of problems and situations. From these combined data, individual casework interviews with ward and out-patients and their relatives as well as our observations in the group discussion, we attempted to outline a conceptual representation of the life space of the epileptic patient.

I

A theoretical derivation of this kind involves the use of such concepts as the position and potency (weight, importance) of regions in the life space, boundaries and barriers of regions, positive and negative vectors, tensions and forces inherent in the situation.³

A region representing concern and activities in the area of 'health and disease' may be assumed to exist in the life space of every person in our culture at a certain stage of maturity. For a healthy, normally functioning person it would be rather peripherally located, and of small potency (representing such matters as getting enough sleep, eating a balanced diet, securing dental care, etc.). With the onset of serious illness it would move from a peripheral to a more central position in the life space of the person and would gain greatly in potency. Since the life space is an interdependent field, other regions and their properties will be affected. The person finds himself in *a new situation*.

Psychological field theory assumes inner personal regions and corresponding regions in the life space (environment). The following considerations however will not differentiate between regions within the person and in the life space.

'From both the theoretical and practical point of view the most important characteristics of a situation are what is possible and what is not possible for the person in this situation' (7, p. 14).

The person with a recent onset of epilepsy, i.e. the person in whose life space 'region E' (E=Epilepsy) developed, is faced with a new situation with an unclear cognitive structure. He does not know what it will be possible for him to do and what will be impossible from now on.

Such new situations arising from changes in physique (such as growth in adolescence) or from physical handicap or illness with concomitant unclear

3. For definition and discussion of these concepts see Lewin (7).

cognitive structure have been analysed by Barker *et al.* (1, pp. 30 ff.). Their general properties are:

1. The directions towards a desired goal are unknown.
2. Valences are simultaneously positive and negative (each act may place one closer to the goal (positive) or move one further from it (negative)).
3. The perceptual structure is unstable, indefinite, and ambiguous.

This situation is comparable to that of a man on thin ice, or of a person on a new job, where the requirements, the personalities of significant people and their power relations are unknown. Finding oneself in such a situation leads to trial-and-error behavior, to false steps at the very time one wants to be most cautious, resulting in frustration and emotionality. It may cause a prolonged state of conflict, over-alertness to every small cue that might clarify perception. It may produce vacillating unstable behavior.

Such tendencies could clearly be observed in our epileptic patients, who appeared to be overwhelmingly concerned with trying to understand their mysterious condition, seeking clarification of its medical, social, and psychological aspects. Their cognitively ill-structured situation—due to the newly arisen and very potent region E—produces all the frustrations, tensions, and anxieties that occur normally in the wake of such radically restructured life space in which one is not yet oriented.

There are other reasons why the situation of epileptics tends to lack adequate cognitive structure over a long period of time:

1. If a diagnosis of epilepsy has been established the most important information given to the patient is that, while he cannot be cured, an attempt will be made to 'control' the condition. To the layman-patient who is accustomed to think in dichotomies (either healthy or ill) this is an ambiguous statement which helps him little towards orientation in the new situation. We find extreme responses:

A patient who, after only two seizures, was well controlled on medication gave up his job at the post office (a civil service job considered to be especially suited for an epileptic) because 'if he goes to work he might fall into the subway pit'. Other patients deny or minimize the implications and try to avoid making any changes in their way of life.

2. If a diagnosis has been made and if, over the necessary period of time, medication has been satisfactorily adjusted, the cognitive structure of a life space with region E is still very unclear and ambiguous. In epilepsy more than in some other physical disabilities we have to deal frequently with a constellation of overlapping regions. The person finds himself in region E in so far as he is an epileptic. But at the time he has no seizures he may experience himself to be in region H (health). Actually he is never conscious when fully in region E. (This does not hold for patients with Jacksonian seizures.) The relative potency of the two regions, E and H, is dynamically important for the behavior of the patient. If he feels uncertain whether to behave at any time as an epileptic or as a healthy person, he will be in conflict and under tension. Similar tensions have been described for the adolescent who does not know whether to behave as an adult or as a child in a specific situation. Members of racial or religious minority groups may feel uncertain in a situation whether to act within the frame of reference of their minority group

belongingness or whether this is irrelevant or inappropriate at the moment. Similarly a woman may feel torn between her role as a wife and her role as a mother, if the overlapping regions 'marriage' and 'mother of children' are felt to be in conflict. Compared to the situation of a cripple with a permanent, visible handicap (such as an amputated leg) the epileptic is more apt to find himself within two overlapping regions with vacillating potency.

But overlapping regions are not necessarily conflicting or antagonistic; e.g. being a wife and mother is a situation that not only occurs frequently, but may be felt to be compatible.⁴ Therefore, one requirement for an adjustment to epilepsy is: to learn to experience the overlapping regions H and E as compatible regions.

To give concrete instances of conflicts due to the overlapping of regions: a patient with an amputated leg may have to give up skiing or mountain climbing; he may be frustrated, but cannot vacillate. An epileptic may know that he should give up driving a car or working on moving machinery. However while he has no seizure he feels himself to be in the region H and may decide to act according to the possibilities open to him in region H.

Adjustment would mean here neither to give up completely like the post office clerk nor to take irresponsible chances, but to lead 'a normal life' in region H within the limits set by region E (not to go on scaffolds at a construction job, but to work as draftsman in the office).

3. The epileptic is often in overlapping sub-regions even within region E, in so far as there is uncertainty whether E is a physical or mental condition. Our material shows how strongly the patients want to be perceived as patients with a physical condition and how persistently they suffer from the nagging doubt that they might be mentally sick. In view of the frequency of borderline cases, and the occurrence of both 'true' and psycho-genic seizures in the same patient, this vacillating perception (experiencing oneself alternately in region EP (physically sick) and region EM (mentally sick)) is not unrealistic. The patient who has been told that the electro-encephalogram or pneumo-encephalogram established an epileptogenic lesion and who is later referred for psychotherapy because of the strong psychological overlay is naturally confused, frightened, and defensive. Helping such a patient to accept psychotherapy is a difficult and not infrequent casework task.

4. Topologically the area of two overlapping regions is equivalent to the boundary zone between the two regions. It is evident in politico-geographical life that such boundary zones are apt to be areas of conflict and tension which spread over the wider field. (The Saarbasin and the zone of Trieste are such boundary zones in the political system of Europe which may be considered part of one of two contesting regions, according to different frames of reference.)

In the life space of a person, clear boundaries between regions facilitate purposeful action and mental stability. Educators and parents know that it is often less important to give a child a wider space of free movement than it is to be consistent, to make the boundaries of a situation very clear. In psychotherapy one speaks of the therapist 'setting limits' and of the patient 'testing the limits'. Unclear or inconsistent limits are said to produce increased tension and guilt feelings. The life

4. For properties of overlapping regions see Barker, *et al.* (1, pp. 39 ff.).

space of the epileptic seems to be characterized by lack of normally sharp boundaries. Just as in relation to employment, he is uncertain about his position in relation to courtship and marriage, about his fitness to have children, or about his desirability as a friend in a social group. Even if he had made sufficient adjustment to accept his condition, he is up against the fact that the unsharpness of boundaries also exists in the way he is perceived by others; and he is aware of being perceived in this doubtful way.

5. Boundaries and barriers (boundaries that offer resistance to locomotion) are often experienced by the epileptic as not 'factual' or 'objective' such as physical barriers are.

For example, the amputee who gives up skiing, experiences skiing as physically impossible, and may ascribe his frustration to 'fate' or to 'forces of nature'. The epileptic veteran who was forbidden by his doctor in line with state laws to use 'that beautiful new DeSoto' he bought with his mustering-out pay, experienced the barrier as arbitrary, set up by social forces. Limitations set by society seem to create more resentment and more tension (in this case leading to a depression) than the inexorable forces of nature.

6. Patients speak of living within an 'iron curtain' or in a 'blockade'. Thus they see themselves use something like topological terms to describe their feelings of social isolation and of being excluded from desirable activities. Isolation is felt most keenly and is most detrimental when it involves not a group but a single individual. The isolation imposed on the physically handicapped is therefore especially pathogenic: the adolescent has the friendship group of his age mates; the minority group member may return from discrimination of the majority group to his family, church, or club where he is among his kind. Handicapped individuals such as the epileptic feel the 'blockade' possibly most strongly in relation to the closest group, the family, another tension-producing factor in the situation.⁵

7. Identification with other epileptics requires a high degree of acceptance of the condition and is often associated with ambivalent feelings (valences are both positive and negative); if a certain degree of identification can be achieved, it is, as our material shows, a source of great comfort to the patient. In this respect the situation on the epilepsy ward has dynamic properties similar to that of the ghetto; the situation in the community after discharge functions like the dispersion (8, pp. 153 ff.). Hence patients whose seizures seem well controlled at the hospital may suffer again from frequent seizures after discharge.

8. If we include in the force field a projection in time (a perception of past and future as part of a person's present experience) we find again that the epileptic meets unsharp boundaries, indistinct goals, much cause for fear, vague hopes. Only comparative research can decide in what respect the time perspective for the epileptic is similar or different from that of other patients with severe illness (cancer, tuberculosis, manic-depressive psychosis with its changing ways of looking at the world). All these diseases may alternate between improvement, remission, and exacerbation; however, the sudden and unpredictable occurrence of the single seizure superimposes a peculiar rhythm upon the curve that would represent the

5. It has been reported by O'Connor and Simon (11) that deaf children tend to be better adjusted if they have deaf relatives.

vicissitudes of a disease over a period of weeks, months, and years. Possibly the situation of the cardiac patient may be similar to that of the epileptic in certain aspects of time perspective. Barker states that tuberculosis is one of the chronic diseases where 'definite plans can be made and gradually achieved . . . In the chronic stages change is usually slow, either for better or for worse, and the patient can look forward to months or years of a stable situation' (1, p. 172). This is in definite contrast to the situation of the epileptic, both in its medical and in its social aspects.

In summarizing: with the onset of epilepsy, as with the onset of any severe, chronic illness, a new region (E) of considerable centrality and potency is formed that affects profoundly all other regions in the patient's life space. The patient is forced to go through a period of adjusting to a new situation by means of a difficult and painful process. Even if from a medical point of view control of seizures may be said to be successful, such process of psycho-social adjustment can be achieved only over a considerable period of time. The new situation is characterized topologically by the fact that region E has unsharp boundaries. The resulting unclear cognitive structure leads to doubt, fear, vacillating, seemingly unpurposeful behavior. Few goals can be clearly perceived and consistently pursued. Dynamically such a situation produces a system of tension, permeating every region of the life space, those representing family and wider social relationships, economic and social status, leisure-time activities, etc. Valences (goals) become ambivalent. When the patient turns he is confronted with these uncertain boundaries or outright barriers that induce forces both towards and away from any region. Such limitation of the space of free movement may finally lead to a 'giving up', to a high degree of passivity (6, pp. 95 ff.). Casework contacts indeed reveal passivity as an outstanding behavioral characteristic of many epileptic patients.

II

From this representation of the life space of the epileptic, certain recommendations for the practice of casework in a hospital or clinic setting may be derived. During the initial period of diagnostic work-up that involves much waiting and suspense for the anxious patient, casework will have to be basically supportive but clarification of diagnostic and treatment procedures is often indicated. As the medical diagnosis becomes known, a primary casework goal consists in helping to clarify the new situation. The patient must be helped to express his hopes and fears; misconceptions must be clarified both with the patient and with members of his family. While understanding and accepting that the condition is not a rational process alone, intellectual clarification has its place in the casework process, because so much ignorance and misknowledge is in the way of realistic perception. At the same time the caseworker has to be sensitive to the emotional meaning of the new situation for the patient and his family.

Our findings demonstrate to what extent a group setting is able to support and complement these casework goals. The patient who, for emotional reasons, can hardly pronounce the word 'epilepsy' in individual contacts, experiences in the group how his co-sufferers are able to speak frankly and to raise the very questions that he himself has on his mind, however vaguely formulated. Thus tendencies

towards denial and suppression are reduced. The group offers intellectual clarification, emotional catharsis releasing tensions caused by the hospital situation and by the threatening diagnosis. It seems to fuse the co-sufferers into some kind of a unit to a higher degree than just living on the ward together usually does (but living on the ward together is a strong factor in the development of this more structured unit). The group may show the patients possible outlets for action to improve their social situation as a group.

In all these respects the situation of the newly diagnosed patient is, of course, different from that of the readmitted one. In the group the former gets the benefit of the latter's experience.

At the time the newly treated patient is being discharged from the hospital, it is often difficult to arrive at some kind of 'social diagnosis' and 'social prognosis' in order to assess the ego strength of the patient. The stresses in the community and response to them are unknown.

The patient who at first thinks that his life has come to an abyss may go back to family and job and may live as before, for all practical purposes. The patient who before discharge stated that he will certainly be able to return to his former job, may report at follow-up clinic that he was fired and has been refused several other jobs. Only after discharge did he feel the full impact of the new social situation. A patient who quite sensibly planned to return to the firm where he is known and appreciated, but to ask for transfer to a job involving no driving, reported at the first clinic visit that he found himself unable to accept this transfer and the cut in salary and status involved. He preferred to find a similar position in a different, new place of employment.

For such reasons the first clinic visit after discharge is often the critical contact, which the pattern of the patient's adjustment becomes apparent, not only in terms of seizure control by medication, but also in terms of the social situation that is beginning to develop. It is at this point that the caseworker may be of much help, again by acceptance and support, by clarification and reinterpretation, by possible referrals, sometimes by working with other members of the family, sometimes by direct contact with the employer. Anything that will make the boundaries of the social region sharper and can help structure the time perspective in a realistic way would help towards adjustment.

How much explanation and clarification should be given by the doctor and how much by the caseworker will depend on the policy and philosophy of the setting and on the personalities involved. There seems no cause to fear overlapping or duplication of function, because the patient's need for clarification is insatiable and these new and frightening matters are not assimilated when they are explained just once. The only thing to fear is contradictory information, lack of teamwork, anything else that increases the patient's confusion instead of resolving it. Where teamwork is really functioning at its best, the social worker will have avenues to show the medical procedures planned for the patient, the results of psychological testing, the medical diagnosis once it is made. The doctor will be interested in the social and psychological implications of his diagnosis. Channels of communications will exist by which he can plan with the psychologist, with the social worker, and with the vocational guidance worker for the best possible way to help the patient structure his future.

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BIOGRAPHICAL NOTE

GERTRUD W. LEWIN is head social worker at the Cambridge Court Clinic, organized under the Massachusetts Department of Mental Health. She was born and educated in Germany, taking graduate work in economics and psychology at the Universities of Heidelberg, Berlin, and Jena. Her marriage to Kurt Lewin interrupted her graduate work just before receiving a Ph.D. in Child Psychology. Following Professor Lewin's death she went into the field of social work and in 1950 received a Master's Degree from Simmons College School of Social Work. Before joining the Cambridge Court Clinic, Mrs. Lewin did family casework and later conducted research at the National Veterans Epilepsy Research Center.

Display of Dyadic Emotions

F. KRÄUPL TAYLOR¹

THE behaviour of an individual in a small group is guided by two kinds of social relationship. There is, first, his relationship to the group as a whole. This *global* relationship expresses itself in behaviour that is as public as an actor's performance before an audience. There are, second, all the *dyadic* person-to-person relationships of an individual with each one of his companions. The emotions of group members will be simultaneously expressed in both forms of social relationship, the global and the dyadic.

The emotions with which we shall be exclusively concerned in this paper are 'love-hate' feelings, as I briefly termed them, which can range through the whole emotional gamut from intensely positive to intensely negative feelings. The measurement of love-hate feelings, and of the group structures associated with them, has been fully described in earlier papers to which the reader is referred (3, 4, 5).

The global love-hate feelings an individual harbours towards the group as a whole need not necessarily be expressed overtly. If they are expressed, the individual displays publicly a certain degree of friendliness (or unfriendliness) towards the total group audience. This degree of friendliness can be compared with that which is overtly exhibited by other group members. The group members will thus align themselves along a hierarchical scale of Public Friendliness, as it may be termed. This variable of Public Friendliness has already received some attention by G. A. Talland (1, 2).

The status of Public Friendliness that an individual attains is an indicator only of his global feelings towards the group. It is independent of his dyadic feelings towards individual group members. A person may show a high degree of Public Friendliness and yet, in his dyadic feelings towards certain group partners, hostile feelings may come to the fore.

The dyadic love-hate feelings group members entertain—or profess to entertain—towards each other can be measured (absolutely or relatively), and the score entered in a 'combined rank matrix of love-hate feelings' in a manner that has been previously demonstrated (4, 5).

It is also possible to measure the dyadic feelings that each group member believes—or professes to believe—to have aroused in each of his companions. These scores can be set out in a 'combined rank matrix of guessed self-appeals'.

We want to know, however, not merely what dyadic love-hate feelings a person entertains—or professes to entertain—but the extent to which he actually displays them in his dealings with individual partners. To obtain such scores we make the plausible assumption that the more these dyadic love-hate feelings are displayed the greater is the likelihood that the recipients of the feelings will interpret them

1. I am greatly indebted to the Board of Governors of the Bethlem Royal and the Maudsley Hospital for a grant from the Research Fund for the purpose of this study.

correctly. If a person's emotional display in dyadic relationships became maximally frank, the other group members would tend to have a perfect knowledge of the emotions they had aroused in him.

To express this in more technical terms: the degree to which dyadic love-hate feelings are actually displayed by a person can be gauged from a comparison of his row-scores in the matrix of love-hate feelings with his column-scores in the matrix of guessed self-appeals, because the row-scores indicate his dyadic feelings towards others, and the column-scores the dyadic feelings that others believe that they have aroused in him. The smaller the difference between the respective row- and column-scores in the two matrices, the greater is the display of dyadic emotions indicated by it. This difference can be expressed in β -scores, which are, by and large, independent of group size.

β -scores range from the highest possible score of 100 (which would be obtained by a person who exhibits his dyadic emotions so clearly that all the recipients of the emotions are fully aware of them) to a score of 0 (which would be obtained in the very unlikely case that a person exhibits the exact opposite of the dyadic emotions he professes to entertain, and exhibits them so clearly that all the recipients of the emotions credit him with the opposite of his professed feelings). Under certain freak conditions one may occasionally obtain a negative β -score. The chance average of random β -scores is 50.

The variable measured in this way will be called 'Dyadic Love-Hate Display'. The measurement is analogous to the measurement of the β -scores of Awareness of Dyadic Self-Appeal (6), though, in the latter case, the comparison is between the column-scores of the matrix of love-hate feelings and the row-scores of the matrix of guessed self-appeals.

THE INVESTIGATED POPULATION

The data were obtained from 23 therapeutic groups (4 all-male, 7 all-female, and 12 mixed groups) whose membership varied from 6 to 10 (with a mode and median of six), and whose total membership was 158. Five student groups were also investigated (1 all-female and 4 mixed groups) whose membership varied from 9 to 11, and whose total membership was 47.

All these groups were closed ones. The therapeutic groups were tested at a fairly early stage of their existence, the student groups at a much later stage. The student groups also had much greater opportunity to make dyadic contacts outside the group settings.

RESULTS

In the 11 one-sex groups, whether male or female ($N=72$), the average β -score of Dyadic Love-Hate Display was 64.17 ± 2.11 . In the 12 mixed groups ($N=86$), it was 61.90 ± 1.75 . The difference between the two averages was not significant statistically.

The average β -score in all 23 therapeutic groups ($N=158$) was 62.93 ± 1.35 , which is very significantly higher than the chance β -value of 50. The standard deviation was 16.91. The median was found to be 63.8, which indicates that the distribution had a slight negative skew. The actual distribution of scores is very

similar to the distribution of the β -scores of Awareness of Dyadic Self-Appeal, which was published in a previous paper (6). The deviation of the distribution from the normal curve is not statistically significant. The chi-square test of the normality of a distribution yielded a value of 16.30 (d.f.=11; $P=.13$). In this test allowance had to be made for the truncation of the distribution at the score of 100.

About three-quarters of all patients scored above the chance level of 50 ($Q_1=52.8$). It therefore seems that most patients exhibit their dyadic love-hate feelings to such an extent that their partners do not have to guess blindly the feelings they have aroused in others.

The average β -score of Dyadic Love-Hate Display in our five student groups ($N=47$) was 75.76 ± 2.32 . This was 12.83 points higher than the average score obtained in therapeutic groups. The difference is highly significant ($t=4.64$; d.f.=203; $P=.00001$).

No difference was found between men and women as regards their tendency to display dyadic emotions; nor was there any difference between homo- and hetero-social relationships.

The variable of Dyadic Love-Hate Display was not influenced by the status of Public Dominance. Those of high-dominance status (α -scores of 70 or more) had an average β -score of Dyadic Love-Hate Display of 64.04 ± 2.18 ($N=48$); those of intermediate dominance status (α -score between 30 and 70) an average β -score of 63.36 ± 2.20 ($N=61$); and those of low dominance status (α -scores of 30 or less) an average β -score of 61.29 ± 2.69 ($N=49$). The differences between the average β -scores are insignificant; in fact, the variance within the three categories of dominance status was greater than the variance between them.

A different result was obtained when the dyadic display of love-hate feelings was investigated among people of different status of Public Popularity (see Table 1). An analysis of variance yielded an F-ratio of 3.62, which was significant at the 5 per cent level of confidence. There was, as Table 1 shows, very little difference between the average Dyadic Love-Hate Display of people whose status of Public Popularity was either high or intermediate. But people of low status of Public Popularity showed their dyadic feeling significantly less freely than their more popular comrades ($t=2.68$; d.f.=156; $P=.01$), though even they achieved a β -score of Dyadic Love-Hate Display which was significantly higher than the random chance value of 50.

TABLE 1 PUBLIC POPULARITY* AND DYADIC LOVE-HATE DISPLAY

Degrees of Public Popularity	N	Average β -scores (and standard errors) of Dyadic Love-Hate Display
Popular ¹	41	65.67 ± 2.47
Averagely popular ²	76	64.68 ± 1.88
Unpopular ³	41	56.95 ± 2.79

1= α -scores of Public Popularity of 70 or more;

2= α -scores between 30 and 70;

3= α -scores of 30 or less.

* Only those groups were included in which matrices of Public Popularity had a W-coefficient of concordance of at least .50.

People who might be termed 'leaders' in a group because they stand high in dominance and popularity were most candid in showing their feelings in dyadic intercourse. Their average β -score of Dyadic Love-Hate Display was 67.33 ± 3.12 ($N=23$), i.e. it is higher even than the average β -score of popular persons of all grades of dominance. On the other hand group members who were both unpopular and non-dominant, had an average β -score of 58.72 ± 3.53 ($N=26$).

In a few groups the variable of Public Friendliness was also tested. In most of them the W' -coefficient of concordance was at least .50, indicating that, in those groups, the assessment of group members was sufficiently reliable to make the scores of Public Friendliness acceptable. Only groups in which Public Friendliness was assessed with a concordance indicated by a W' -coefficient of .50 or more, have been considered here. People with a high status of Public Friendliness (α -scores of 70 or more) had an average β -score of Dyadic Love-Hate Display of 61.87 ± 4.88 ($N=12$); those of intermediate status (α -score between 30 and 70) an average β -score of 62.73 ± 3.78 ($N=23$); and those of low status (α -score of 30 or less) an average β -score of 58.97 ± 4.72 ($N=11$). The differences are too small to be significant.

The autistic variables which indicate a person's global attachment to the group ('Love-Hate Bias') or his guess of the emotional attitude of the group-as-a-whole towards him ('Self-Appeal Bias') were not found to be related to the Dyadic Love-Hate Display.

The quantitative relationship between Dyadic Love-Hate Display and other dyadic variables (such as Dyadic Love-Hate Mutuality and Awareness of Dyadic Self-Appeal) are of interest, but require special consideration in another paper.

DISCUSSION

In the measurement of subjective emotions by means of questionnaires we have to rely on the sincerity and cooperation of subjects. If our subjects have indeed been reliable, we may expect that they will openly exhibit at least some of the emotions they professed to entertain. We may expect furthermore that the longer and better people know each other, the freer will be the emotional display among them and the greater will be their knowledge of the feelings they entertain towards each other.

Both these expectations were borne out by our results. Most of our group patients exhibited their dyadic feelings of friendliness or animosity with sufficient candour to enable their partners to judge these feelings fairly correctly. As a result, three-quarters of the group patients had β -scores of Dyadic Love-Hate Display that were above the random chance level of 50, and the average β -score among all the patients was significantly above it. In students' groups, where members had known each other longer and better, the average β -score of Dyadic Love-Hate Display was significantly higher than the average β -score in therapeutic groups. This last result was all the more significant because the membership of student groups exceeded that of therapeutic groups. If there had been much blind guessing among the students, one would have expected their β -scores to cluster nearer to the chance value of 50.

The fact that longer and better acquaintance among group members leads to higher scores of a dyadic variable had been previously noticed when the variables

of Dyadic Love-Hate Mutuality (5) and of Awareness of Dyadic Self-Appeal (6) had been examined.

Neither the dominance nor the friendliness, which a group member showed publicly, was related to his display of dyadic emotions. But popularity did affect that display. Unpopular group members were significantly more reserved in the exhibition of their dyadic feelings than group members of average or high popularity. A similar result had been previously obtained with regard to the variable of Awareness of Dyadic Self-Appeal. Unpopular members, it had been found, tended to be ignorant of the feelings they had aroused in others. At the time, this finding allowed two interpretations:

- (a) people who do not know the feelings they arouse in others may behave in a gauche and ill-adapted manner, and therefore become unpopular;
- (b) both unpopularity and ignorance of dyadic self-appeal are the result of an inability to join the group emotionally. Such an 'emotional outsider' would not only be unaware of the cross-currents of feelings in the group, but would also be rejected by the other members.

The new finding that unpopular members are also reserved in their display of dyadic feelings favours the second of the above interpretations. The emotional outsider could be expected to have the three characteristics that have been found: unpopularity, inability to show his feelings to group members, and ignorance of the feelings of group members towards him.

'Leaders' in the group, i.e. people of high dominance and popularity, differed as regards Dyadic Love-Hate Display and Awareness of Dyadic Self-Appeal. Such 'leaders' were found to be only averagely aware of their appeal to others but they were highly demonstrative in showing their feelings to individual group members.

SUMMARY

A quantitative study is reported of the degree to which group members display their feelings to dyadic partners.

The scores of this variable of Dyadic Love-Hate Display have a distribution that is not significantly different from a normal curve.

The average degree to which dyadic feelings are exhibited is significantly above a random chance level. Length and intimacy of acquaintance increase the score of Dyadic Love-Hate Display. This may be the result of greater freedom in showing emotions, or of better assessment of these emotions by dyadic partners, or—and this is the most likely interpretation—of both.

Unpopular group members tend to be reserved in the exhibition of their dyadic feelings. As it had been previously found that such group members also tend to be ignorant of the emotions they have aroused in others, it seems that they are emotional outsiders who have no emotional ties with the group.

Neither the public status of dominance or friendliness, nor any global autistic bias, affect a group member's Dyadic Love-Hate Display.

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Interaction between Members of Bomber Crews as a Determinant of Sociometric Choice¹

DOROTHY McBRIDE KIPNIS

SEVERAL investigators of neighborhood groups have concluded that sheer physical proximity between the dwelling-units of two persons will affect the likelihood that a friendship will develop between them (1, 2, 3). For example, Festinger, Schachter, and Back studied social relationships among residents of a student housing project. They found that friendships were most common between next-door neighbors, less common between people whose houses were separated by another house, and so on, until there were very few friendships between people living more than four or five houses apart.

In this housing development, much of the social life of the community revolved around a central court in each block. Residents tended to be social isolates if their houses faced away from this central court. Even such factors as the location of mailboxes and outside staircases affected the development of friendships in an adjoining project consisting of apartment buildings.

Festinger *et al.* conceptualize their results in terms of two variables: 'physical distance' and 'functional distance'. The first of these is distance in yards or some other physical measure, while functional distance is measured in terms of use of the same facilities or overlapping of customary routes in the performance of regular activities. When either physical or functional distance is small, a large number of accidental meetings or 'passive contacts' occur, and some of these develop into closer relationships.

This interpretation has implications for the development of personal relationships in formally organized groups. An organizational structure ordinarily necessitates contacts between some members of the group and restricts interaction between others. The interpersonal preferences of members of organized groups might then be more a function of their positions or status in the group than of any more personal attributes. The methodological implications for studies relating personality attributes and sociometric choice, as well as for the interpretation of preferences of members of organized groups, are obvious.

The present investigation is concerned with the prediction of sociometric choices of members of B-29 bomber crews. The amount of interaction possible or

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necessary between any two members of the crew during flight, and to some extent before and after flight, is dictated by crew position. Each crew member has a designated physical location in the plane, and many members of the crew are sufficiently separated that only inter-phone communication is possible. Each crew member also has specified jobs to perform, some of which require interaction with certain other members of the crew. If differential amount of contact plays the same role in the development of friendships between members of working teams as in the formation of neighbourhood groups, sociometric choices should follow the channels of interaction dictated by the crew organization. We hypothesize, therefore, that sociometric preferences of crew members can be predicted (a) from their physical location in the plane and (b) from their job responsibilities or functions.

PROCEDURE

Subjects. The subjects (Ss) were members of B-29 crews in training at Randolph Air Force Base. Sociometric preferences of members of four training classes were obtained. Each class consisted of 17 or 18 crews of 11 men each. As some crew members were absent at the testing session, the total number of subjects tested was 705; 320 officers and 385 airmen.

Indices of Sociometric Preference. Preference scores were derived from responses to a short questionnaire. This questionnaire, the *Position Description Form*, consists of sociometric questions developed by the Crew Research Laboratory, AFPTRC, and is administered routinely to crews in training (4). Ss were asked to check once or twice, according to the certainty of their choice, the crew members they would prefer in each of the following criterion situations: (a) arranging a crew party, (b) helping to load special cargo, (c) going to town for the evening, (d) returning from behind enemy lines, and (e) as a companion at a lonely outpost.

As responses to the five items were highly correlated, all scores were based on the sum of choices on all five questions.

Differences in prestige strongly affect sociometric preferences in B-29 crews. Officers with high prestige receive on the average many more choices than lower-ranking enlisted men.² In addition, the crew consists of five officers and six enlisted men, and both officers and enlisted men may tend to restrict their choices to their own groups. To control both of these effects, we restricted comparisons to cases in which two or more men of fairly equal status differed in amount of interaction with a third crew member. If two officers differed in amount of interaction required with a specified enlisted man, we predicted that the officer with the greater amount of interaction would show more liking for the enlisted man than the officer who had less interaction. Similarly, if one enlisted man was frequently required to work with a certain officer while another was not, we predicted that the enlisted man who worked with the officer would show more liking for him.

RESULTS

Estimates of differential amounts of interaction were made on the basis of (a) physical distance between positions occupied by crew members during flight and

2. Fiedler, F. E. Unpublished research.

(b) functional distance resulting from interaction made necessary by job responsibilities, both in ground-training and during flight. The basis for each prediction, specific procedures, and results will be given for each hypothesis in turn.

Physical Distance as a Determinant of Sociometric Preferences

The B-29 is divided into three main compartments, and each crew member is assigned a position in one of the three compartments which he occupies during most of the flight. Informal interaction is thus largely confined within compartments. Even within the same compartment, equipment and physical obstructions may prevent interaction between persons who are quite near each other.

Two predictions were made on the basis of physical positions. Both involve the navigator (an officer) and the radio operator (an enlisted man). These two crew members occupy the same section of the forward compartment of the plane, and both are somewhat isolated from other crew members. Therefore, we predicted (a) that radio operators would show more liking for navigators than would other enlisted men and (b) that navigators would show more liking for radio operators than would other officers.

The Radio Operator-Navigator Relationship. Radio operators' preferences for their navigators were compared with preferences expressed by each of four other enlisted men. These four men were the central fire control gunner and the right, left, and tail gunners. The four gunners all occupy positions in rear compartments of the plane, and have relatively little opportunity for interaction with the navigator.

Each airman's preference for the navigator was categorized according to whether the navigator was his most preferred officer, was intermediate, or was his least preferred officer. The navigator was considered most preferred whenever he received the maximum number of choices given by the airman to an officer, and least preferred whenever he received the minimum number of choices given to an officer.³ All other preferences were classified as intermediate. Weights of 0 (least preferred), 1, and 2 (most preferred) were assigned to the three categories.

TABLE 1 COMPARISON OF RADIO OPERATORS' AND CONTROL AIRMEN'S PREFERENCES FOR THEIR CREW NAVIGATORS

Crew Position of Control Airman	Average Preference for Navigator	Average Radio Operator's Preference for Navigator	Difference	t	N*
Central Fire Control Gunner	.77	1.14	.36	2.23*	44
Left Gunner	.63	1.10	.48	2.97**	40
Right Gunner	.79	1.14	.36	2.02*	42
Tail Gunner	.73	1.10	.37	2.25*	41

* .05 > p, one-tail test.

** .01 > p, one-tail test.

* ts are computed for correlated data because airmen's preferences are correlated within crews. Consequently, N varies slightly because of missing data for the control airman.

3. Choices given to one officer, the aircraft commander, were here disregarded as he has greater prestige than the other four officers. Airmen who chose all four other officers an equal number of times were eliminated from the sample.

Table 1 shows the average preferences for the navigator expressed by radio operators, and by each of the four gunners. In each case, radio operators show more liking for the navigator than the other airman, and each of the differences is significant beyond the .05 level.⁴ Navigators are then more likely to be preferred by radio operators than by other airmen, as was expected.

The Navigator-Radio Operator Relationship. We also predicted that navigators would show stronger preferences for radio operators than would other officers. Three other officers have rank and prestige similar to the navigator, but are assigned to locations that allow less communication with the radio operator. One (the radar observer) sits in a rear compartment with the gunners, while two others (the pilot and the bombardier) sit in the forward compartment but are separated from the radio operator by bulkheads. These three officers' preferences for the radio operator were compared with navigators' preferences for the same radio operators.

The number of times each officer chose the radio operator was converted into a percentage based on his total number of choices of the five lower-ranking airmen. This procedure controls variation between officers in the strength of their preferences for officers over enlisted men, and also weights data from officers who showed strong preferences for one or two men even though they gave no choices at all to the rest. Specifically, then, the hypothesis is that the navigator will give a greater proportion of his choices of enlisted men to the radio operator than will the other three officers.

TABLE 2 COMPARISON OF NAVIGATORS' AND CONTROL OFFICERS' PREFERENCES FOR RADIO OPERATORS

Crew Position of Control Officer	Average Percentage of Choices Given to Radio Operators*	Average Percentage of Navigators' Choices Given to Radio Operators	Difference	t	N
Radar Observer	18.1	28.1	10.0	2.53**	48
Pilot	19.1	26.9	7.8	2.59**	53
Bombardier	17.0	24.0	7.0	2.40*	52

* .05 > p, one-tail test.

** .01 > p, one-tail test.

* The percentage computed = 100 (number of choices to the Radio Operator) / Total number of choices to the Radio Operator, Central Fire Control Gunner, and Right, Left, and Tail Gunners.

Table 2 shows the average percentages of choices given to radio operators by navigators, and by each of the other officers. In all three comparisons, the navigator gives a greater share of his choices to the radio operator, and the difference between the navigator and the other officer is significant beyond the .05 level. Thus, navigators and radio operators each show more liking for the other than do other crew members of their respective statuses.

Functional Distance as a Determinant of Sociometric Preferences

Some of the men in the B-29 crew have regular duties requiring them to interact with specific other members of the crew. We also expected contacts of this kind to increase the likelihood that friendships would develop between the men concerned.

4. All probabilities are given for one tail only.

The Central Fire Control Gunner-Bombardier Relationship. The central fire control gunner and bombardier furnish one instance where we might expect this process to take place. The central fire control gunner is the senior gunner of the crew while the bombardier is the officer in charge of the gunners. The central fire control gunner's duties entail both inter-phone contacts with the bombardier during flight and interaction with the bombardier on the ground before and after flight. The other gunners and the radio operator have less occasion to interact with the bombardier. Consequently, we should expect the central fire control gunner to show more liking for the bombardier than the other gunners and the radio operator.

This prediction was tested by the same procedure used to test the prediction concerning radio operators' preferences for navigators. Each airman's preference for the bombardier was categorized according to whether the bombardier was his most preferred officer, was intermediate, or was least preferred. Weights of 0 (least preferred), 1, and 2 (most preferred) were again assigned to the three categories.

TABLE 3 COMPARISON OF CENTRAL FIRE CONTROL GUNNERS' AND CONTROL AIRMEN'S PREFERENCES FOR THEIR CREW BOMBARDIERS

Crew Position of Control Airman	Average Preference for Bombardier	Average Central Fire Control Gunner's Preference for Bombardier	Difference	t	N
Radio Operator	.68	1.30	.62	3.77**	44
Right Gunner	1.00	1.27	.27	1.67	44
Left Gunner	1.02	1.27	.25	1.72*	45
Tail Gunner	1.00	1.25	.25	1.81*	44

* .05 > p, one-tail test.

** .01 > p, one-tail test.

Table 3 shows central fire control gunners' and other airmen's average preferences for the bombardier. In all but one case, central fire control gunners' preferences are significantly greater than those of the other airman. It will also be noted that the airman who likes the bombardier least is the radio operator, who has almost no direct work contacts with the bombardier. The results at both extremes in amount of interaction are then consistent with the hypothesis.

The Aircraft Commander-Pilot Relationship. A second case in which functional distance should affect sociometric preferences involves two officers, the aircraft commander and the pilot. The aircraft commander is actually the senior pilot of the plane, while the pilot is the co-pilot. These two men work together closely during the flight and, in addition, attend ground school classes together. None of the three other officers—the navigator, the radar observer, and the bombardier—works so closely or continuously with the pilot as does the aircraft commander. Pilots should then be better liked by aircraft commanders than by the other officers.

Pilots, on the average, receive 8.41 choices from their crew commanders. These same pilots receive an average of 7.46 choices from the navigators in their crews. The difference is significant at the .02 level ($t=2.27$, $N=61$).

Bombardiers' and radar observers' preferences could not be compared with

those of aircraft commanders because it was found that officers differed significantly in the total number of choices that they gave to other officers, disregarding direction. Both aircraft commanders and navigators made more choices than the other three officers. As this difference makes a comparison between aircraft commanders' preferences with those of an officer giving fewer choices ambiguous, other comparisons were not made.

The fact that the aircraft commander and navigator make most choices is consistent with our general hypothesis in that these two officers are the most central officers in the crew in terms of their functions as crew members. The aircraft commander's role involves contact with all other officers, since he is held responsible for crew performance, while the navigator exchanges information both with the bombardier and with the radar observer as well as with the aircraft commander and pilot. Thus, the two men who are required to interact to a considerable extent with all other officers also tend to show stronger preferences for them.

The Officer-Central Fire Control Gunner Relationship. From the general hypothesis that proximity and interaction are determinants of sociometric preferences, we should expect a man who is required to work with one other crew member, but not at all with a second, to show a stronger preference for the man with whom he works. We have not tested this hypothesis directly because of the difficulty in controlling prestige in the present situation. However, a comparison between the choices of men who are required to work with both individuals and the choices of men who are required to work with only one of them will also serve to estimate prestige effects. If differences in preferences are a function of differences in prestige, men who work with both others should also show differences in the strengths of their preferences for them, while if the difference can be correctly considered to be a result of interaction, men who work with both others should prefer them equally.

One instance where this comparison can be made involves the extent to which officers, as compared with enlisted men, prefer the central fire control gunner over other airmen. Officers ordinarily have more contact with the central fire control gunner than they do with other lower-ranking airmen because of his supervisory responsibilities. Other enlisted men, on the other hand, have as much contact with each other as with the central fire control gunner. Therefore, we might expect officers to prefer the central fire control gunner over other enlisted men to a greater extent than enlisted men themselves will prefer him over other members of their own group.

This proves to be the case. The central fire control gunner receives, on the average, 5.7 more choices from officers than the second most popular airman with officers, the tail gunner.⁵ This difference is highly significant ($t=5.79$, $N=45$, $.01 > p$). The central fire control gunner and tail gunner are also the two most popular airmen with enlisted men. However, in this case, the difference between the two airmen in number of choices received is .2, which is not significant ($t=.13$, $N=47$). Thus, the central fire control gunner's greater popularity occurs only with the group that has little contact with the other airmen.

5. One enlisted man, the flight engineer, was omitted as he usually has both higher rank and greater prestige than the other enlisted men. Only crews for which data were available for all officers or enlisted men were included in the analysis.

DISCUSSION

The results of the present study indicate that physical and functional proximity are factors to be considered in evaluating the interpersonal preferences of members of organized groups. The hypothesis that proximity is a determinant of interpersonal preferences appears to apply as well in B-29 crews as in the previous studies of housing developments.

In addition to testing this hypothesis in a different context, the present study also extends the interpretation of results in one major respect. The investigations of housing projects do not make it clear whether proximity determines only which other individuals a specific person meets, or whether proximity continues to exert influence even beyond the stage of initial acquaintanceship. In the present study, it is apparent that the latter is the case. The crews consisted of only 11 men who had worked together frequently before the sociometric data were gathered, so that all of the men knew all other members of their crew fairly well. Even within this small group, crew members were better liked by others who had worked with or near them most frequently. Thus, the data suggest a process such that as two men interact with each other more and more, they begin to seem more likeable to each other. The content of interaction, and the conditions under which it will have such an effect, need further specification. However, exploration of the types and consequences of interaction might be a highly fruitful means of increasing our understanding of interpersonal preferences.

SUMMARY AND CONCLUSIONS

The study tested the general hypothesis that sociometric preferences of members of bomber crews are a function of the formal organization of the crew. The crew organization is such that a specific physical position in the plane and specialized job responsibilities are assigned to each man. Both physical positions and job responsibilities enhance or restrict the opportunities for interaction among crew members. We hypothesized that crew members would be best liked by others who had greatest opportunity for interaction with them.

The results support the conclusion that interpersonal preferences of crew members are affected by the crew organization, and that greater amounts of contact (resulting from organizational requirements) facilitate the development of stronger preferences.

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BIOGRAPHICAL NOTE

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Quasi-familial Relationships in Industry

PAMELA BRADNEY

IN a previous paper I have indicated how the concept of a joking relationship may be usefully applied in industry and how in fact joking may play a very important part in certain types of formal structure. Other concepts used extensively in the study of primitive societies—namely those concerned with family relationships—have also proved useful in understanding the work-group situation in a department store. Furthermore, there seems to be some evidence that the analogy is not only useful as a method of understanding the social contacts involved but might also be systematically applied by the management in organizing conditions conducive to satisfactory relationships and productive activity.

A sales assistant's job is to sell as much as she can, as quickly as she can. This earns her both additional income (commission, in the store studied, $\frac{1}{2}$ per cent) and the approval of her superiors. If she knows her job she needs little or no help from anyone in order to carry it out. On the contrary, any time spent on such contacts is, from her point of view, entirely wasted, since it loses potential selling-time for her, selling-time that is already severely limited by a complicated sales procedure and other formal difficulties.¹ In spite of this, both members of the same department and members who happen to meet either in the course of their routine work or during their breaks usually spend a certain length of time in friendly and sympathetic conversation. They show an interest in each other's affairs both inside and outside the store. They discuss and express mutual sympathy over matters in the store of general interest. What is more, they show the utmost readiness, within their capabilities, to help each other whenever an opportunity arises. Each member to some extent identifies her interests with those of other members of the organization.

Such a sense of unity has long been recognized as important in large-scale organizations, but it may not have been realized how similar is the unity required to the sense of unity that exists between members of a family. In the store, and probably in many other such social structures, the necessity to compete with co-workers is combined with a need for their cooperation and mutual assistance; the combination of rivalry with mutual help is one of the main characteristics of family life everywhere. However, this is not the only way in which the work-group relationship in the store may be compared with that of a family. There is a general sense of affiliation with the organization as a whole—which may, perhaps, be compared with the relationship between members of the 'extended' family in primitive societies—as well as more particular affiliations, involving more intense emotions, with a member's own work group. By means of comparison with a simple family unit it is possible to throw light on the nature of this double affiliation and the relationships involved. The analogy in fact proves useful in understanding all superior-subordinate relationships and relationships between equals throughout the store.

1. See previous paper (1) for analysis of these.

Let us first consider briefly what it is that families in primitive societies (and to a certain extent those of our own society) and work groups like those of the department store have in common. Both the family and the department consist of a group of equals or near equals under the control of two authorities, one of which has a higher status than the other. The members of equal status need each other's help, but at the same time each wants to do particularly well himself in the eyes of authority. The resemblances are more pronounced between the work group and the primitive family in that both are permanently engaged on a particular work task, whereas in our own families the tasks are differentiated and the family tends to split up once the children become adult. Similarly, both in the primitive family and in the work group there is a continuous association with other units of the same kind in which the members form a similar status hierarchy and which are all a part of the same social whole. No factory or work group can of course be regarded as just a family writ large. It does, seem, however, in the store that in view of the structural resemblances between work group and family and also because nearly every employee has the prototype of familial experience as a background, more familial behaviour has become superimposed on the structure than the structure itself can account for, and it seems likely that from this behaviour similar satisfactions can be derived to those of family life. I will now deal in rather more detail with the various similarities noted.

The elementary unit of structure in most societies is the family group, i.e. mother, father, and children. Similarly, in the store, the relationship between the assistants in a department under their departmental authorities, like that between siblings and their parents in a family, forms a unit—the simple work group on which the essential functioning of the store is based. The group of assistants in the department, like the sibling group in the family, has its own internal structure; in this case based primarily on order of seniority in the service of the firm, but also on age and sex. Among most peoples it is felt that brothers and sisters ought to cooperate and interact without serious conflict, in spite of the distinctions between them and possible rivalry and jealousy, because they are of one 'flesh and blood', and this is particularly true in primitive societies where brothers form a work group. The feeling of obligation and solidarity between assistants in a department is very reminiscent of this and may be linked with the fact that they too are working on a similar job for the same department, quite apart from the various structural similarities.

The 'father' and 'mother' of the department are the buyer and underbuyer, and here too a comparison can be usefully made with the distinction in function between these parents that is to be found in many societies. 'The head of the household is responsible in tribal law for the conduct and liabilities of his children and other dependants from whom he accordingly demands unfailing obedience and respect. A mother although entitled to similar consideration is more openly affectionate and lenient than the father and usually the medium through whom he is approached' (6, p. 83).² The buyer is like the hard and severe 'head of the house-

2. See also Parsons and Bales (5, p. 47). However, this ideal type is of course only approached empirically in strongly patrilineal societies. In matrilineal societies the mother's brother is often the stern authority. I do not altogether agree with Parsons and Bales' claim that a differentiation between 'instrumental leader' and 'expressive leader' occurs in *all* small face-to-face groups of which the family is a particular instance.

hold' and in contrast there is the softer and more understanding 'mother', the underbuyer, through whom the buyer often has to be approached.

As in a family there is competition between the 'children' for success in the eyes of their 'parents'. The stabilization of their position in the department and the possibility of any advancement depend on their being able to convince the underbuyer and buyer, particularly the latter, either of their selling ability or of some other desirable quality such as their politeness to customers or generally careful work. Any praise from the buyer or underbuyer means a lot to the assistants, although if the slightest favouritism is shown towards one of them, they quickly show their disapproval by a general coldness of manner towards the assistant in question and by a 'go-slow' reaction to any instructions given by the authority showing the favouritism. No open quarrel with another assistant or open expression of disapproval occurs, however, no matter how much jealousy or anger may be experienced, until some recognized regulation is obviously being broken by the offending parties.

Just as children who, as a result of the emotional relationship they have with their parents, often object to taking orders from them, so it is with the assistants, who, in spite of the fact that they are employed to take orders from their departmental superiors, often object to these orders. They sympathize with each other over the jobs given to them and say they cannot understand the buyer's reason for asking them to do a particular thing when they had it in mind to do such-and-such a job, which would have been so much better for all concerned.

The assistants may feel the buyer's request is quite definitely unreasonable. This is a conclusion they always reach jointly, if it is to become articulate. They then get a spokesman to express their feelings to the underbuyer, in the hope that she may be able to intercede on their behalf with the buyer. Sometimes the underbuyer agrees to do this; sometimes she tries to persuade the assistants that they should do as the buyer has asked and explains to them the buyer's reasons. In this way the matter is gradually settled.

Although the assistants do not like taking orders from the underbuyer and buyer, they are often very glad to be able to go to them for their help and advice when faced with problems that they themselves are unable to solve. Sometimes such difficulties arise in the course of a transaction; sometimes an assistant wants to ask for a personal concession to be made, and so on. As a result both of the general practice in the store and of the particular departmental training given, assistants understand just how far to go on their own initiative and when to pass on a problem or decision to a higher authority. They willingly submit to this and in fact show signs of relief that they do not have to take the responsibility themselves. In such cases, as in passing on the buyer's orders, the underbuyer is often the 'go-between': sometimes she is able to solve the assistant's problem, without having to go to the buyer; sometimes she finds the assistant a suitable time to make an approach to the buyer. She is always the softening influence that makes it easier for both parties.

The buyer, at times, may appear hard and unfeeling. If she is busy with other matters when the assistant makes her approach she may speak in an abrupt way to her. She may at times give orders that appear callous and ruthless, yet there is considerable evidence that even the buyer's fundamental attitude to her staff is in line with the 'family' analogy. If questioned about her staff she will express great affection for them, e.g. 'I've got such a wonderful set of girls in this department. They're an excellent team and I'd do anything to help any one of them.' The

buyer also often shows considerable knowledge of the individual idiosyncrasies of her staff. An ability to show this understanding, even if only very occasionally, is often an important factor in making for the buyer's popularity with her staff. They expect her to be strict. But she has to be human.

Although the assistants of the department tend to show signs of jealousy when one of them is praised by the buyer or the underbuyer, if on the other hand a member of the department wins one of the store prizes, e.g. the prize awarded by the management for courtesy to customers, no jealousy whatever appears to be shown or felt by her co-workers. Instead they seem to show a genuine pride in the fact that one of the members of their department should have earned such a reward, just as they would if a member of their own family had received a decoration. There is a genuine admiration on the part of young members and new members for the skill in their work which the more experienced members have acquired, i.e. for the 'big sisters' of the department. The new members often try to copy their techniques and methods of work and the 'big sisters' usually help their 'little sisters' to do this. Although they are proud of their abilities they do not try to keep them to themselves and often show a great interest in training others and watching them make progress. Of course in this they do have the satisfaction of experiencing a certain prestige as a result of their abilities, but it may also possibly be satisfying to play 'little mother' in the department. In connection with this it should also be noted that even the 'little sisters' of the department have the juniors to give orders to and, although in fact these orders are seldom carried out since the juniors usually work directly for either the buyer or underbuyer, it gives the assistants a sense of importance to have someone under their control, and in turn they too take a pride in the way the juniors are progressing.

Between certain assistants in each department there occurs a type of 'linking' similar to that which has been found to exist between siblings of a primitive group.³ In primitive societies the linking occurs between siblings of the same age and sex, but in the store although those 'linked' are usually of the same sex (few departments have 'mixed' assistants) they often differ widely in age. They are usually found, however, to have had a similar length of experience in the store and to have about the same degree of skill in selling. These partners may be either assistants who happen to work next to each other on a counter, friends (i.e. members who purposely contact each other in their free time) who happen to be working in the same department, or simply members who, although not necessarily working close together, have developed a habit of comparing notes in their chance meetings.

The 'linking' that has been described is not in any way formalized, yet the fact that there is some 'link' is clearly recognized informally. Each partner in speaking of the other refers to her as 'my friend', and the term in this context has a connotation that distinguishes the person in question quite clearly from any other friends the member may have either in the store or outside it. The term 'friend' is also used in this special way when other members of the store wish to refer to a particular assistant's partner. They speak of 'your friend' or 'her friend'.

The relation involved in the linking may vary considerably. Sometimes it is one of open competition with the partner; sometimes by having a knowledge of her partner's ability and by keeping a close watch on the amount she is selling, an

3. An account of this 'linking' is given in 6, p. 142. The linking may in fact be a general phenomenon of small work groups—especially among women.

assistant is able to keep a constant check on how she herself is doing. But the relation is also often of a more sociable type: the partners confide in each other over any 'out-of-the-ordinary' sale they have made or an unusual customer they have served; they discuss new merchandise and any particularly interesting aspect of old merchandise; they tell each other when they have had orders from or had to go to the buyer, or some authority in staff office. They tell each other if they are not feeling well, and so on. In this way they are often able to help each other over difficulties. They relieve the boredom of the slack periods for each other and in exceptionally busy periods when they are on the verge of losing their temper over a customer or another member of the department, a joke or a word of sympathy from a 'linked' partner often averts an outbreak, and relieves the tension.

The 'sibling principle' which is seen in its most intense form in the relation between the linked partners can also be seen to operate to some extent throughout the store, i.e. between members of different departments, in a way that again seems similar to that found in primitive societies: Professor Fortes has shown how among the Tallensi, 'individuals who have the same social role or have had similar socially critical experiences are identified with one another whenever their role or these experiences come into a situation' (2, p. 242). He quotes as one of the best instances of this the case of co-wives, who always speak of each other as 'sisters'. In the same way members of the store in different departments who have similar roles and experiences in store life not only have the same formal status but also show a willingness to cooperate and help each other in the 'sisterly' manner evident in the individual department, when they happen to come in contact, e.g. when an assistant is sent with a customer to match goods she has chosen with those of another department. Even those of different rank in other departments are regarded as 'big sisters' or 'parents' (if of higher rank) or as 'little sisters' (if of lower rank) and in making an approach to another department are either looked to for advice and help, or are helped, as in the individual department. Above all the 'A' stock⁴ in any department are regarded with particular affection. They are like the 'grandparents' of a tribe and are felt in the same way to be a 'living link with the past' (6, p. 276), and in fact they often do teach newcomers something of the store's history and of the tradition that has held them to their jobs for so many years.

There is, of course, some variation in the extent to which unity exists between the different departments and offices of the store. It depends largely on whether the interaction necessitated formally is one of mutual assistance or one of dependency and on the attitude adopted by the assistants towards a department as a result of their particular experience of it. For instance, the Inexpensive Coat Department is on the best of terms with the Model Coat Department because each is always helping the other by sending customers along; in the same way there is a good relationship between each selling department and the Receiving Room that is always at its service. However, relations are never quite as good between selling departments and the Adjustment Department, which is always troubling them with queries, or the Sanction Office, which may sometimes refuse or delay the sanction of an important bill. The relation between departments also depends on the personal knowledge of each other and past experience of the members involved. Yet even where the formal structure, past experience, and present circumstances are of such a kind as to create the possibility of great disunity and distrust between

4. Those who joined when the store was founded.

departments and their members, a sense of unity is still maintained and any enmity tends to be focused on a particular member within the department who is held to be the true cause of any trouble that has occurred, e.g. all bad feeling over queries tends to be focused not on the adjustment Clerks who bring the queries to the selling departments but on the Manager of the Adjustment Office, although he may, in fact, have had nothing whatever to do with the queries in question.

Although the unity *within* a department is always the strongest, there is a noticeable sense of unity and sisterhood between members of different departments who—usually as a result of formal contact—have got to know each other personally, i.e. have become interested in each other as individuals, even though they may never meet outside store hours. The importance of this knowledge of others is recognized to some extent by the management and encouraged 1. by articles on individuals in the store magazine; 2. by the store club, with its many facilities for members to get to know each other; and 3. by the facilities for contact also provided in the staff canteen and rest room. The sense of unity that exists, however, is quite beyond anything that could have been either established or maintained by these aspects of store organization. The management has really very little understanding of the nature of store unity and in attempting to encourage it is working largely in the dark.

Nor is it understood by management that the readiness with which the store departments accept top-level decisions, without question, is mainly due to the fact that the sense of 'family' unity extends to management also. Those at management level, like those of high rank in each of the various departments, are regarded as something like parents and simply because they are in the job are trusted implicitly to do it well. Their position and administrative functions are accepted just as those of parents are, and although they are to some extent feared they are also spoken of, at times, with sincere affection. They are at the head of the 'big happy family' and, indeed, the organization is often described in these terms by its members.

How it is that the type of relationship described has been built up in the store is difficult to say, but it is clear that, as in the case of the joking relationship, the familial relationships are continuously sanctioned by the members of the group and the behaviour required is learned in about three weeks by newcomers, who although unconscious of the actual process and its results, are nevertheless particularly sensitive to the influences of the group into which they have come in order to earn their living. No formal sanction of quasi-familial relationships can be quoted, which is not surprising in view of the fact that the management seems unaware of its existence. There is, however, considerable informal sanctioning of familial behaviour of both a positive and negative kind, e.g. 'What's so nice about this place is that we're like one big family,' one of the assistants said of the store in general. Another assistant speaking of a particular newcomer who was not 'fitting in' as well as she might, said, 'We understand each other in this department and we help each other out whenever we can, but that one—she likes to be different; she won't pal on with anybody.'

Finally there is the 'automatic' sanction, also described in the case of the joking relationship. Assistants who adopt the customary 'familial' behaviour that has been described make contacts more smoothly both inside and outside the department, establish their place in the department more easily, and get their work done more quickly and satisfactorily. This is because, by adopting a familiar mode of behaviour towards other members they are able to allay at once any suspicion

or fear of them as 'strangers' that might exist and to resolve other tensions likely to arise from the formal structure.

There is also, perhaps, an automatic sanction resulting from the psychological satisfaction of belonging to and being accepted by a 'family'. Psycho-analysts hold that all effective and successful adult relationships are built up out of the emotional habits learnt in early childhood in the family situation (cf. 3), and it seems likely that it is because the social structure of the store allows expression in the work situation of the 'family' patterns of attachment to siblings and parents, that contacts within this group can be made so smoothly and happily.

Nor should the satisfaction of the more general affiliation to the group be overlooked. McDougall, in recognizing the herd instinct, wrote, 'Its impulse becomes, on the human plane, the desire, not only for the physical proximity of other human beings and for intercourse with them, but also for the sharing of our emotions with other men; for it is only then that the gregarious impulse attains its fullest satisfaction' (4, p. 432).

It may, of course, be argued that the family pattern of relationships in bringing a sense of belonging and mutual help, etc., is just as likely to bring the strong hostilities so often generated by familial relationships and which, although suppressed, may often crop up in other ways. To a certain extent this does happen, but strong hostilities are the likely outcome of the formal structure alone, quite apart from any 'familial' developments, which can in fact do little more than reinforce the basic tensions. Moreover, where they do occur it puts them into a familiar framework and, as a result both of this and of the fact that the framework is only a mock family and not a real one, the hostility tends to be reduced rather than aggravated.

The 'sibling' and 'family' behaviour, like the joking behaviour, described previously, can therefore be seen to play an important part in the life of the individual within the organization and because of this in the life of the organization itself. For the individual it means that, once she has learnt the behaviour she is expected to adopt towards other members and that they are ready to adopt towards her, and once she has learnt the attitude of mind that is adopted towards other departments and management, she is able to feel completely 'at home' in a very true sense. The other members of the organization are no longer 'strangers'; they are 'brothers', 'sisters', and 'parents', which means she can approach them easily without formality and can trust them. This makes both for smooth running and for time-saving generally. It also means that keen competition is natural as between members of a family; yet at the same time it makes this competition a sort of game and for that reason it is less wearing and distressing than it would be if taken too seriously. Above all the individual has a sense of 'belonging' and being taken care of, and this, perhaps above all, is what makes her want to stay in her job.

From the point of view of management the behaviour described not only helps to avoid excessive labour turnover and make for smooth running within each department and between departments, it also means that the management itself is accepted readily and without serious criticism by the employees—even though it may be unaware of this reason for its success. However, there seems no reason why management should not in future make use of this kind of knowledge, particularly in the organization of individual departments—the size of department on which the possibility of 'linking', etc., depends—and in the choice of

underbuyer and buyer, whose actual personalities, it is evident, are far more important than is usually considered.

To what extent quasi-familial behaviour is to be found in other organizations and to what extent this behaviour is likely to vary with different formal structures is not yet clear. It is clear, however, that it is important that further research into these aspects of the large-scale organization should be carried out. It is generally recognized that it is important for the individual to 'fit in' with the rest of the department, but there is little understanding of what this fitting in really means and of just how important it is in the life of the industry concerned.

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Group Reaction to Two Types of Conference Leadership

WILLIAM M. FOX¹

THERE is little question that the conference process has much to offer to modern organizations if it is properly developed and utilized. A serious limitation to its further implementation, however, is posed by the current dearth of objective, experimental data relating to it. This limitation assumes greater importance when we consider the extent of the popular usage of the process. Kriesberg and Guetzkow (4), after interviewing a large number of executives, report that conferences consume from a quarter to one-half of the average executive's time. This report is not surprising; as an *a priori* observation we should anticipate a greater reliance upon conferences by all types of groups as a result of the growing complexity of modern society.

Available literature on the conference process reveals many contradictions and inconsistencies in relevant theories. Findings of various staff members of the Conference Research Project at the University of Michigan confirm this. Sperling investigated the more technical and experimental papers; Hariton made a study of 'wisdom' literature based upon the experiential approach of trainers and executives who have actually used the conference method; and Miller surveyed the literature on communication problems in group discussion. Their principal findings have been summarized as follows (11):

The experimental literature yielded but few definite conclusions which could be readily incorporated into conference theory, but contained many helpful 'islands of theory'. The wisdom literature was full of contradictions; a converse to almost every assertion could be found.

The present experiment, then, was prompted by a desire to obtain experimental data relating to certain questions concerning the effects of variations in the style of conference leadership. These questions are posed below, each followed by hypotheses that have been suggested by relevant research literature:

1. *Can a leader consistently achieve unanimous verbal agreements in order to resolve controversial issues regardless of whether he employs a Positive or Negative Style of Leadership?*²

Related Hypotheses. Yes, verbal unanimity may be achieved through the skilled application of both styles of leadership. The Positive leader will be able to achieve verbal unanimity by discouraging emotional conflict and involvement on the part of group members, by providing objective information to the group, and by encouraging constructive compromise rather than 'majority rule' as a goal for the discussion. The Negative leader can achieve verbal unanimity through the

1. From Ph.D. Dissertation accepted by Ohio State University, March 1954.

2. These styles are discussed in the section below devoted to the experimental design.

persuasive imposition of his ideas upon the group; by adroitly exploiting emotionalism, and by utilizing group social pressures to this end.

2. *If unanimous agreement as defined above can be achieved, will the Positively led group members feel different about their unanimous proposals when compared with the Negatively led group members?*

Related Hypotheses. The two different approaches will produce significantly different reactions on the part of the group members. The Positively led group members will tend to accept as their own and be satisfied with the group solutions to a greater extent than the Negatively led group members. This will occur because the Positively led group members will have less reason to be on the 'defensive', to hold adamantly to existing attitudes as a 'face-saving' necessity. The Positively led group members will have an opportunity to participate genuinely in the formulation of decisions; they will have a more valid basis for identifying themselves with group solutions. Therefore, verbal unanimity when achieved through the application of the Negative Style of Leadership will not tend to represent the same degree of intelligent understanding and willing acceptance of the group solution by the individual group members as when evoked by the Positive Style. Consequently, the Positive Style will produce a climate that is more conducive to attitude change.

3. *Will one style of leadership tend to create a greater spirit of permissiveness within the group than the other style?*

Related Hypotheses. The Positive Style of Leadership will tend to engender a greater degree of permissiveness on the part of the group members, since the Positive leader will attempt to encourage group unity and harmony, whereas the Negative leader will attempt to 'sell' his proposals by showing partiality to those group members who support his views and will encourage factionalism in the group if it will help to achieve his goal. Owing to the requirement of the Positive Style that the leader refrain from imposing his ideas or personality upon the group, the Positively led group members will perceive a friendlier discussion atmosphere and will feel freer to express themselves. The Positively led group members will tend to be less self-oriented and more group-oriented than the Negatively led group members. All considered, there will tend to be a more permissive atmosphere created by the Positive Style of Leadership.

4. *Will one style of leadership tend to facilitate better intra-group communication than the other style?*

Related Hypotheses. The Positive Style of leadership will tend to provide for more effective communication (accurate exchange of ideas on the part of all participants) within the group than will the Negative Style. This should result from the function of the Positive leader to encourage the full expression of each group member's true feelings and avoidance on his part of any attempt to distort or misrepresent any individual's position. Also, the Positive leader's emphasis upon harmony within the group should encourage a more effective exchange of ideas.

5. *Will group members have a higher regard for the quality of leadership displayed by the leader when he is practising one style of leadership than when he is practising the other style?*

Related Hypothesis. As a result of the greater satisfaction that the Positively led group members will have with the final group solutions and the 'climate' and process of their discussions, the leaders will be regarded as displaying a better quality of leadership when they assume the Positive Style.

DESIGN AND CONDUCT OF THE EXPERIMENT

A $2 \times 2 \times 2$ factorial design with four equated student discussion groups was used. It provided the fullest exploitation of the conditions existing at the time the experiment was undertaken. The design represents three factors at two levels each:

<i>Factor</i>	<i>Level 1</i>	<i>Level 2</i>
Leadership style	Positive	Negative
Leader personality*	Leader 1	Leader 2
Discussion topics*	Problem 1	Problem 2

* These were control factors which it was found had only nominal influence upon group reaction.

A cross-over technique was employed (in the absence of an opportunity to recruit more than four equated groups) to attempt to balance the effects of the main factors and to provide a greater response sampling. This procedure may be illustrated as follows:

Group W

Leader 2, Problem 1, Positive Style
Leader 1, Problem 2, Negative Style

Group X

Leader 2, Problem 1, Negative Style
Leader 1, Problem 2, Positive Style

Group Y

Leader 1, Problem 1, Positive Style
Leader 2, Problem 2, Negative Style

Group Z

Leader 1, Problem 1, Negative Style
Leader 2, Problem 2, Positive Style

Some inducement had to be afforded the discussion participants to keep them realistically in the field of discussion. Four groups of nine college students each were equated on the basis of various criteria³ from a total of 117 male students who were enrolled in the writer's classes. The majority were juniors and seniors who were told that participation in the discussions would account for 25 per cent of their final course grade.

3. (a) Age, (b) Marital Status, (c) Religious preference, (d) Grade point average, (e) Classification, (f) Size and location of home town, (g) Sex, (h) Major area of study, (i) Athletic participation, (j) Observed personality adjustment.

Two discussion leaders of dissimilar age and background were trained to assume alternately the Positive and Negative Styles of Leadership.⁴

Under the Positive Style of Leadership:

1. The leader draws upon the group for ideas or an agenda for discussion. Thus, 'activity perspective' is afforded the group and procedure becomes a matter for group decision.

2. The leader attempts to foster interaction among members by limiting his verbal participation to less than one-third of the total verbal activity of the group.

3. The major portion of the leader's activity is devoted to:

(a) Demonstrating non-emotional recognition and understanding of ideas and comments from the group.

(b) Providing technical or objective information for the group; clarifying issues by explaining and summarizing significant group thought, periodically.

4. The leader attempts to maintain a matter-of-fact attitude, giving praise or censure sparingly and objectively.

5. The leader employs role-playing, role reversal, and risk-description techniques when they seem appropriate.⁵

6. The leader encourages compromise, intelligent understanding, and willing acceptance of group solutions by each group member as substitutes for decision by vote.

7. The leader may attempt to relieve group tension in a crisis through the use of group self-evaluation.

In many respects, the Negative Leadership Style is antithetical to the Positive Style.

Under the Negative Style of Leadership the Leader:

1. Prepares an agenda for the group unilaterally; the group gains knowledge of the agenda only as each topic or issue is presented by the leader. Thus, 'activity perspective' is denied the group, and procedure is determined by the leader.

2. Uses diplomatic persuasion to sell his ideas to the group. Due to this objective, the leader's verbal participation tends to comprise more than half the total verbal activity of the group.

3. Acts as an expert information-giver and tends to give greater emphasis to the data that support his views; he periodically clarifies and summarizes, but in a manner favorable to his position.

4. Demonstrates partiality by non-objectively giving praise and encouragement to those factions or individuals who support his views; polite criticism to those who do not.

5. Discourages the use of role-playing, role reversal, and risk-description techniques; if he were to use them it would be in a manner designed to substantiate his position.

6. Encourages acceptance of his position and disposes of individual or factional opposition by the employment of majority votes, if possible.

7. Attempts to relieve group tension in a crisis through the imposition of his authority upon the group.

The Positive leader was to continue the discussion of a problem until verbal

4. These role descriptions have drawn most heavily upon those used by Ronald Lippitt (7).
5. For information about the Risk Technique see (8).

unanimity regarding solutions to the problem was achieved, or until it seemed that nothing more could be gained through continued discussion. The Negative leader also was to continue a discussion until verbal unanimity or a seemingly hopeless impasse was reached; however, he was to attempt to 'sell' solutions to the group.

Student surveys were conducted to determine experimental discussion topics which would be controversial and of interest to the participants. The experimental discussion problems were:

Problem 1: 'Should Negroes be admitted to white American colleges; if so, under what conditions?'

Problem 2: 'Should anything be done about so-called professionalism or commercialism in inter-collegiate football and basketball; if so, what?'

Various measuring devices were developed to provide indications of the effects of the Positive and Negative Styles of Leadership. A brief discussion of the nature, function, and administration of these instruments follows.

Observer Ratings. Two observers were trained to classify independently all discussion utterances into one or more of three categories: Objective Task Functions, Positive Social Functions, and Negative Social Functions.⁶ These ratings were made to provide an indication of the quality of interaction among members.

Attitude Dispersion Scales. These scales were designed to measure the pre-discussion and post-discussion attitudes of the group members to provide an indication of the degree and direction of any attitude change effected by the discussion. There were two scales, one for each experimental problem. The appropriate scale was administered before and after the discussion of a problem to each member of the discussion group. As was the case with all of the questionnaires, the identities of the respondents were never known to the writer or others; secret group numbers known only to the holders were used.

*Post-Meeting Questionnaire.*⁷ An eight-item questionnaire was administered at the conclusion of each discussion meeting. This questionnaire was designed to provide indications of group permissiveness, participant satisfaction with solutions reached, the presence of attitude change, and the extent to which the group members were aware of the presence of the observers.

Post-Problem Questionnaire. A fifteen-item questionnaire was administered approximately one week after the conclusion of each experimental discussion. This questionnaire was designed to provide indications of group permissiveness, participant satisfaction with solutions reached, the presence of attitude change, participant satisfaction with discussion leadership, friendship formation, and the popularity of group members, intra-group competition and communication.

Final Questionnaire. A thirteen-item questionnaire was administered approximately

6. These categories were formulated after a review of pertinent literature. For examples, see: The Task Function, Group Function, and Individual Function categories employed by Morton Deutsch (3); The Group Centered Roles, Task Centered Roles, and Individual Centered Roles that are suggested by the National Training Laboratory's Report (10); the Functional Roles of Group Members described by Benne and Sheats (1).

7. An attempt was made to develop valid questionnaires by formulating the majority of questionnaire items on the basis of questions that had demonstrated their utility in other studies under roughly comparable conditions.

two weeks after the completion of the last experimental discussion to the members of our four experimental groups. Designed to provide indications of participant satisfaction with solutions reached, the presence of attitude change, and the degree of realism achieved in the experimental environment.

Leader Time Record. A record of the total verbal participation time of each leader for each discussion was compiled to indicate the extent to which the leaders complied with the verbal participation requirements of the leadership styles.

Typescript. A verbatim record of the experimental discussions, made to provide indications of the extent of group involvement and the consistency with which the leaders applied the two styles of leadership.

RESULTS

The experimental data relating to the questions posed and their related hypotheses were evaluated in terms of the five-per-cent level of confidence; if the null hypotheses could not be rejected at this level, the differences obtained were presumed to be the result of chance.

With regard to Question 1 (Can a leader consistently achieve unanimous verbal agreements in order to resolve controversial issues regardless of whether he employs a Positive or Negative Style of Leadership?), the following results were obtained: four of the eight experimental discussions produced complete verbal unanimity; three produced verbal unanimity with the exception of one 'holdout' on one point in each case; and in the last, verbal unanimity was produced under Negative Leadership for all points but one, which a majority of the group opposed.

The argument could be made, of course, that much of the verbal unanimity achieved represents nothing more than the absence of disagreement among group members prior to and during the course of the experimental discussions. It is difficult to accept this assumption in the light of the initial differences of opinion and the high level of discussion involvement on the part of group members observed by the writer, the experimental discussion leaders, and observers.

Or it might be assumed that agreement was facilitated by the formulation of vague and generalized proposals. That this was not the case may be illustrated by the following group proposals resulting from the discussion of Problem 1 (Should Negroes be admitted to white American colleges; if so, under what conditions?) by Group Y under the direction of Leader 1 with the Positive Leadership Style:

1. Negro students should be admitted with the same entrance requirements as those existing for white students.
2. Separate dormitory facilities for those white students who do not wish to live with the Negro students; same arrangement for eating facilities.
3. No quotas or restrictions should be established as to the number of Negro students to be admitted. Admission would naturally be gradual or limited due to the present economic and educational status of Negroes.
4. Negro faculty members should be employed if they possess the normally required personal and professional qualifications.
5. Permit the Negroes to attend campus social functions and use recreation hall facilities. It would be desirable for a responsible faculty member to meet with the first group of Negro students to discuss with them the unique problems they

would face initially; to reassure them and provide them with an opportunity to make suggestions and express their feelings. Make provisions to place any white students on 'probation' who attempted to make trouble with the Negro students.

6. Since admission is by invitation, leave the question of admitting Negroes into social fraternities up to the membership of the particular group.

7. Permit the coach to decide whether or not Negroes should play on varsity teams.

Verbal unanimity was achieved for every point in this list with the exception of Proposal 5. One group member 'held out' for segregated dances with the belief that non-segregated dances would present an unnecessary risk for the success of the admission program.

The above evidence, in addition to the consideration that the leaders were not highly skilled and experienced in assuming the experimental styles of leadership, provide at least qualified support for the hypothesis: that verbal unanimity may be achieved through the use of both the Positive and Negative Styles of Leadership as defined in this study. In any event, an adequate degree of verbal unanimity was achieved in all the experimental discussions to provide a basis for testing the hypotheses relating to Question 2 (below): that verbal unanimity is an erroneous indicator of the extent to which group members actually accept, and are satisfied with, group solutions; the Positively led group members will tend truly to accept group solutions to a greater extent than Negatively led group members.

The results pertaining to Question 2 (If unanimous agreement as defined can be achieved, will the Positively led group members feel different about their unanimous proposals—in terms of acceptance of them and satisfaction with them—when compared with the Negatively led group members?) provide support for the

TABLE 1 TABULATION OF RESPONSES ON THE BASIS OF LEADERSHIP STYLE TO FOUR FINAL QUESTIONNAIRE ITEMS (35 d.f.)

Question	Mn. pos. led grps.	Mn. neg. led grps.	Diff.	t*	Value of P
Q. 6: Did you enjoy the Negro discussion?	4.44	3.89	.55	1.71	.10
Q. 7: Did you enjoy the athletic discussion?	4.17	2.67	1.50	4.76	.001
Q. 10: Did the Negro discussion change your attitude about the problem?	2.06	2.00	.06	.20	
Q. 11: Did the athletic discussion change your attitude about the problem?	1.89	1.22	.67	3.13	.01

* For the purpose of computing *t*-tests for the above responses, a scale value of '1' was assigned to *None* responses and a scale value of '5' was assigned to *Very Much* responses.

hypotheses made. Despite the achievement of a surprising degree of verbal unanimity in each of the eight experimental discussions, there were significantly more favorable responses by the Positively led group members to such questions as:

Did the athletic discussion change your attitude about this problem? (See Table 1, Question 11.)

How often was your own thinking affected by what the others were saying? (See Table 2, a, Question 6.)

How good were the contributions of the others in the group? (See Table 2, b, Question 7.)

With regard to Question 3 (Will one style of leadership tend to create a greater

TABLE 2 EFFECTS OF LEADERSHIP STYLE IN TERMS OF QUESTIONNAIRE RESPONSES*

Question	Mn. pos. led grps.	Mn. neg. led grps.	Diff.	t	Value of P
<i>a. POST-MEETING QUESTIONNAIRE (68 d.f.)</i>					
1. How did you feel this meeting was today?	3.85	2.80	1.05	4.38	.001
2. Did you find yourself wanting to say things during the meeting that you didn't actually say?	4.04	3.40	.64	2.67	.01
3. To what extent were the things you personally hoped to get out of the meeting different from what the group was trying to accomplish?	3.89	3.94	.05	.29	
4. How fully do you think the members were in accord with what the group was trying to accomplish today?	3.94	3.97	.03	.18	
5. Did you feel free to contribute ideas to the discussion today?	4.42	3.91	.51	1.96	.10
6. How often today was your own thinking affected by what the others were saying?	2.55	2.00	.55	2.50	.02
7. How friendly was the group toward you today?	4.60	4.51	.09	.64	
8. To what extent were you aware of the presence of the observers during the discussion today?	4.40	4.17	.23	1.15	
<i>b. POST-PROBLEM QUESTIONNAIRE (70 d.f.)</i>					
1. Did you desire to excel others in the group?	3.97	4.08	.11	.48	
2. How cooperatively did the group work together on this problem?	4.03	3.64	.39	2.01	.05
3. Did you find that you had difficulty in getting your ideas across to others?	4.22	4.08	.14	.59	
4. Did you find that you had difficulty in trying to follow or get the point of what the others were saying?	4.53	4.50	.03	.15	
5. How did the others tend to react to your ideas or suggestions?	3.25	3.14	.11	1.18	
6. How friendly did you feel towards the group?	4.50	4.39	.11	.94	
7. How good were the contributions of the others in the group?	4.11	3.67	.44	2.78	.01
8. Did the group help your thinking?	3.14	2.81	.33	1.28	.20
9. What do you think of the final decision of the group?	3.78	3.64	.14	.64	
10. What was your general overall impression of the quality of leadership shown by the group leader?	4.11	2.72	1.39	6.66	.001
11. What would you consider was the group's overall impression of the quality of the leader?	3.92	2.61	1.31	6.91	.001

* For the purpose of computing *t*-tests for the above responses, a scale value of '1' was assigned to None or 'unfavourable' responses and a scale value of '5' was assigned to Very Much or 'favourable' responses.

spirit of permissiveness within the group—in terms of defensiveness or self-orientation, willingness to express genuine views and tolerance of others' views—than the other style?), experimental data indicate that the Positive Style of Leadership created a more permissive group atmosphere. That is shown by the finding that the Positively led group members represented a significantly greater proportion of Objective and Positive Social Function Statements—as recorded by the observers—and a significantly smaller proportion of Negative Social Function Statements than were found for the Negatively led group members. (See *Table 3*).

TABLE 3 EFFECTS OF LEADERSHIP STYLE IN TERMS OF OBSERVER CLASSIFICATION OF DISCUSSION STATEMENTS INTO THREE CATEGORIES* (2 d.f.)

		<i>Actual Frequency</i>			<i>Total</i>
		<i>Objective Statements</i>	<i>Pos. Social Statements</i>	<i>Neg. Social Statements</i>	
<i>All Positively Led Groups</i>	No.:	3,394	313	329	4,036
	%:	84.1	7.6	8.3	100
<i>All Negatively Led Groups</i>	No.:	1,592	70	243	1,905
	%:	83.6	3.6	12.8	100
		<i>Expected Frequency</i>			
<i>All Positively Led Groups</i>	No.:	3,387	262	387	4,036
	%:	83.9	6.5	9.6	100
<i>All Negatively Led Groups</i>	No.:	1,599	123	183	1,905
	%:	83.9	6.5	9.6	100

* The null hypothesis was made that the above data represent random samples from a common population. With this hypothesis the pooled frequencies for all samples provide the estimates of the proportions to be expected in each of the three categories. A significant difference at the .001 level was found between the aggregate responses on the basis of test of chi-square after R. A. Fisher. The Observer Ratings seem to be reliable; the percentage agreement between the raters for items which both classified ranged from 76 per cent to 95.6 per cent with an average of 89.5 per cent. 'Surplus items' as a percentage of the total ranged from 98 per cent to 30.3 per cent with an average of 23.3 per cent. It seems reasonable to assume the same level of reliability for the 'surplus items' as for the items that both observers rated.

Furthermore, when the responses of all of the Positively led group members were compared with the responses of all of the Negatively led members, significant differences favoring the Positive Style were found for such questions as:

How did you feel this meeting was today? (See *Table 2, a*, Question 1.)

Did you find yourself wanting to say things during the meeting that you didn't actually say? (See *Table 2, a*, Question 2.)

How cooperatively did the group work together on this problem? (See *Table 2, b*, Question 2.)

Experimental data relating to Question 4 (Will one style of leadership tend to facilitate better intra-group communication than the other style?) were inconclusive.

With regard to Question 5 (Will group members have a higher regard for the quality of leadership displayed by the leader when he is practising one style of leadership than when he is practising the other style?), it was found that the groups consistently favored the Positive leader. This was indicated by the significantly more favorable response of the Positively led group members to the questions:

What was your general overall impression of the quality of leadership shown by the group leader? (See *Table 2, b*, Question 10.)

What would you consider was the group's overall impression of the quality of the leader? (See *Table 2, b*, Question 11.)

Furthermore, it should be pointed out that both leaders strongly favored the Positive Style of Leadership at the conclusion of the experiment. They not only felt it to be more productive of real attitude change, but felt more at ease with it, due to the absence of the group hostility they claimed was created by the Negative Style. Interestingly enough, both admitted that they had doubted the value of the leader style distinctions until they had actually begun to practise the styles before groups.

CONCLUSIONS

Despite the fact that the Positive Style of Leadership consistently required more time (see *Table 4*) for the completion of a discussion, the results indicate that the Positive Style was superior to the Negative Style in several respects. The Positive Style created:

- 1. A more permissive and friendlier group atmosphere.
- 2. Greater group member satisfaction with the performance of the conference leader.
- 3. Greater group member satisfaction with and acceptance of group solutions; perhaps therefore, superior capacity for changing the attitudes of participants.

TABLE 4 TOTAL TIME IN MINUTES REQUIRED FOR EACH OF EIGHT EXPERIMENTAL DISCUSSIONS

	<i>Positive Style</i>	<i>Negative Style</i>
<i>Leader 1, Problem 1</i>	273	105
<i>Leader 1, Problem 2</i>	146	99
<i>Leader 2, Problem 1</i>	300	108
<i>Leader 2, Problem 2</i>	135	96
<i>Totals</i>	854	408

The value of these findings depends upon the assumption that other conference groups will react in the same manner as the experimental groups. Despite the fact that a limited sample of college students was used, the experimental results substantially agree with those of certain other related studies that employed groups dissimilar to those used in this study (6, 2, 7, 5, 9, 12). Consequently, there is reason for assuming that the Positive Style of Leadership will generate similar consequences in other conference situations.

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BIOGRAPHICAL NOTE

WILLIAM M. FOX is Assistant Professor of Industrial Relations and Management at the University of Florida. He became interested in the area of human relations through his association with Dr. N. R. F. Maier while studying at the University of Michigan, where he received the degrees of B.B.A. and M.B.A. He received his Ph.D. from Ohio State University in 1954. In addition to teaching at Texas Technological College, University of Washington, and University of Florida, Dr. Fox has engaged in personnel work in business.



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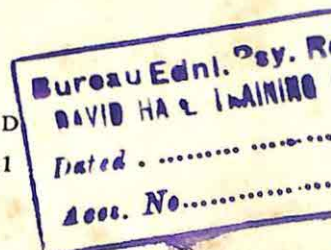
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The Measurement of Supervisory Methods^{1, 2}

MICHAEL ARGYLE, GODFREY GARDNER,
AND FRANK CIOFFI

THIS paper is the first of two which will report the results of an investigation into the effects of different styles of first-line supervision on productivity and related variables. The investigation was carried out in eight electrical engineering factories in the United Kingdom (see Appendix E).

Since the war there has been a great deal of talk about 'progressive' or 'democratic' techniques of leadership and human relations in industry. It is often not clear what exactly is meant by these terms, or if foremen vary only along this one dimension. Such has been the enthusiasm in this country for new methods of supervision during recent years, that a large number of courses for foremen have been established; arranging courses or sending people to outside courses is now an essential part of a progressive personnel department. Furthermore, emphasis is often laid on the 'human relations' aspects of such training. As a matter of fact there is almost no positive evidence that such training is effective (9, 10), and the creation of these courses may be regarded as the result of a myth started by Elton Mayo to the effect that human factors are more important than economic or technological ones (1). In this paper we examine the attempts first of others, then of ourselves, to measure just those aspects of foremanship which these courses seek to promote. In the second paper we shall report the influence of these methods on productivity, absenteeism, and labour turnover, and examine whether there are any differences in supervisory practices between trained and untrained foremen.

Having decided upon the dimensions of foreman behaviour, another difficulty is that of measuring them. As will be seen below, we have rejected the reliance on a single method of measurement, often used in the past, and have used four separate measuring methods, in an attempt to find stable dimensions independent of the vagaries of particular techniques. The extent of the correlations between these measures, and between the dimensions, will be described below.

THE CHOICE OF DIMENSIONS TO BE MEASURED

It is probably true to say that all observation is made within some conceptual framework. Ideally a study of foremen might begin with a prolonged observation of many foremen, describing all their industrial activities in phenomenological

1. The research was sponsored by the Department of Scientific and Industrial Research—Medical Research Council Joint Committee on Human Relations in Industry, and financed from Counterpart Funds derived from United States Economic Aid.

2. We are indebted to the following firms for allowing us to carry out this investigation: Crompton Parkinson Ltd., Doncaster; G.E.C., Witton, Birmingham; Lancashire Dynamo &

terms, i.e. without reference to any assumed concepts, but with simple, unbiased descriptions of phenomena or appearances. The observation units or items could be scored, perhaps in terms of frequency or length of time (or a combination of both), and then intercorrelated. A group factor analysis would disclose whether there were any dimensions of foreman behaviour, and these dimensions could be affirmed as empirically discovered rather than conceptually imposed.

However, this procedure would entail practical difficulties. Observers would have to watch many foremen at their daily work for at least a week. Four observers would take six months to describe a hundred foremen in this way. This is not unreasonable, but whether management, unions, or foremen would cooperate has yet to be discovered. Moreover, in looking for social-psychological factors, we might be concerned not so much with *what* a foreman does as *how* he does it. Reprimands, for instance, can be administered in a variety of ways.

As an alternative, we began by looking at those dimensions which previous research had shown to be related to productivity or job satisfaction and which were, therefore, perhaps causally relevant, and also those dimensions which had emerged as group factors in previous analysis.

Our main sources of reference were the work at:

- Michigan. (i) Office Supervisors (14, 17). (ii) Railroad Foremen (15). (iii) Caterpillar Tractor Co. (13).
 S. California. (iv) Four organizations: U.S. Forest Service; California State Department of Employment; Naval Air Station Repair Department; Lockheed Aircraft Corporation (4).
 Ohio. (v) Naval Officers (21).

Ideas were also gained from studying work done at the National Institute of Industrial Psychology in London. (vi) Castle (3).

The behavioural categories which thus emerged from previous research were seven, namely:

- (a) General as opposed to close supervision.
 - (b) Pressure for production.
 - (c) Time spent on supervision and planning as opposed to time spent doing similar work to that of the operators.
 - (d) Power or authority of foremen, whether formal or informal (influence with superiors on behalf of subordinates).
 - (e) Employee-centred behaviour as opposed to production-centred behaviour.
 - (f) Democratic as opposed to authoritarian supervision.
 - (g) Discipline—obtained by persuasive as opposed to punitive methods.
- (a) *General vs. Close Supervision*

One way in which foremen can vary is the extent to which they watch the men who work for them. That this is related to efficiency has been shown by the California study (4) and two of the Michigan studies (13, 14). Foremen were asked such questions as whether employees need to be supervised to get good work out of them and if employees can be trusted to keep working whether the foreman is there or not.

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No one has validated this method of assessing closeness of supervision against other measures. However, Katz *et al.* (14) in the Office study thought that two questions to the subordinates about the explanation of a reason for new jobs (p. 19) were indirect ways of measuring closeness of supervision. But this slight support is only obtained after assuming that because 'new methods' are very similar to those already in use, 'highly detailed explanation is a method of closely supervising employees'. This is not necessarily so.

They defined closeness of supervision as 'the degree to which the supervisor checks up on his employees frequently, gives them detailed and frequent instructions, and in general limits the employees' freedom to do their work in their own way' (14, p. 17). This is the definition that we, too, have followed.

(b) *Pressure for Production*

It is often assumed by management that an essential part of supervision is to maintain pressure for production at all times, with increased pressure when special orders have to be completed in a short time. In the studies that have been made so far, there is very little to support this attitude; in fact some slight evidence appears to suggest the possibility that such pressure is negatively related to productivity (4, 17).

The kind of question that was asked in connection with this dimension is seen in the Tractor study (13), where foremen were asked: 'Do you feel there is much pressure on you and your section to get out more work?' This question also illustrates the usual assumption that pressure exerted at the top is transferred downwards, i.e. a foreman who is under pressure himself will exert pressure on his employees.

In the Office study there was no attempt at cross-validation. In the Tractor study, employees and foremen were asked similar questions about the supervisory practices as regards pressure employed by the foremen, but no correlations between the answers are quoted. However, Comrey *et al.* (4) put four questions on 'Urgency' to 100 supervisors and four on 'Pressure for Production' to their subordinates, obtaining a correlation of .34 (significant beyond the .001 level).

We defined this dimension as the amount of pressure for output that foremen exerted upon their workers.

(c) *Time spent on Supervision*

A foreman may spend his time in a variety of ways. He may spend part of his time watching his operatives at work, supervising them in the sense of ensuring that they are busily at work and that they are doing their job in the right manner. Another part of his time may be spent in the office, if he has one, planning future work, making out requisitions for materials and equipment that will shortly be needed in his department, making out reports, and arranging the distribution of work among his operatives. These two functions, though distinct, are legitimately part of what is understood by the term 'supervision'. Some foremen, however, will spend part of their time 'on the bench', i.e. doing the same general type of work as their experienced workers, either because they believe that there are special jobs that they alone can perform satisfactorily, or because there are rush jobs and a shortage of skilled employees. They may, of course, be 'working foremen'³ who

3. In British industry there is the practice of calling the purely supervisory foreman a staff supervisor or foreman, or even 'non-working' foreman, while the working foreman is known by

are expected to work with the men they supervise. Where a foreman is responsible for selecting and training *new* employees, this would be a third subdivision of supervision, but helping with production which is lagging would be work 'on the bench' (or on the shop-floor) and is not supervision. Time spent on supervision was found to be related to productivity in three previous studies, the Office, the Railroad, and the Tractor Co.

Office section heads were asked: 'What proportion of your time is given to supervisory matters?' Railroad foremen were asked: 'How much of your time do you usually spend in supervising and how much in straight production work?' In the Tractor study, the division of time was made on a different basis. Foremen were asked: 'How much of your time do you usually spend in supervising the men, and how much in other things like planning the work, making out reports, and dealing with people outside your section?'

In none of these studies was there any attempt to validate the measurement of this dimension.

From this examination of previous work, it seemed important to separate time spent on straight production from the two main supervisory functions and so initially we chose a three-way break-down of the time dimension into hours spent 1. supervising; 2. planning; 3. on the bench. It proved to be too difficult for foremen to analyse their time in this way, so the dimension was simplified into the two categories: proportion of the time spent 1. in the office; 2. on the shop-floor supervising. The proportion of time spent in the office was taken as a measure of *general* supervision and the attempt to analyse a foreman's behaviour in temporal units was abandoned.

(d) *Power of Foremen*

Some studies indicate that the power of the foreman (freedom to run his section without too much supervision from above, ability to get improvements for his men) is related to the productivity and job satisfaction of his section.

Pelz (18, 19) found that the supervisory methods of the foreman affect the employees favourably when the foreman has a certain amount of influence with upper management. If he is sympathetic to the men, but lacks power or influence, he only arouses expectations that cannot be fulfilled and thus increases dissatisfaction.

In the California studies (4) foremen were regarded as having 'Adequate Authority' if they did not feel that their superiors made decisions which they should make themselves, if they were not conscious of irritations occasioned by the necessity of getting approval from above, and if they felt that they had enough authority to handle emergency situations and any problems that might arise in their group. Validation for this measurement of 'Adequate Authority' was obtained by asking the men if the foreman could get wage increases and other benefits for them and whether he had any influence with his superiors in these matters and others, such as disciplinary action. The correlation between 'Adequate Authority' (questions to foremen) and 'Influence with Superiors' (questions to subordinates) was .22 (significant almost at .02).

In our study we followed this concept of 'Adequate Authority' but were not

such terms as leading hand, charge-hand, gang-leader. The latter is not on the staff and his wages are usually included in direct labour costs.

so fortunate in obtaining validation. Some managers were reluctant to admit that foremen had unequal influence with them, or else gave ratings that did not correspond with those given by the foremen themselves. It is likely, of course, that a foreman's replies might reflect the amount of power he would *like* to have. That is to say, a foreman who disliked responsibility might say he had enough or too much, whereas an ambitious foreman might express a desire for more, even though objectively they were equally influential. In view of these difficulties, we found it advisable to drop this dimension altogether.

(e) *Employee-centred vs. Production-centred Attitudes*

Of recent years, nearly all training courses for foremen and supervisors have been advocating employee-centred behaviour. As mentioned above, this approach apparently springs from the belief that the early Hawthorne investigations conclusively showed that treating workers as human beings, and not just as cogs in the productive machine, is far more effective in increasing output than any other scientific rearrangement of the working environment. Whether or not this belief is justified, it has certainly been the policy of training courses to encourage supervisors at all levels to take a personal interest in the workers. Among many managers too, there is the belief that, just as contented cows produce most milk, happy workers produce most goods, and therefore, in the interest of production, everything must be done to keep the workers happy.

It has not, however, been empirically established that productivity and job satisfaction are functionally related. Even if they were, it is doubtful whether this relationship could be regarded as causal since neither can be manipulated independently of the other. In order to find the direction of causation it is usually necessary to do an experiment since correlations alone will not show this; therefore, while we can find factors that influence both job satisfaction and output, we cannot find the causal relation between them.

Attempts to measure the 'employee-centred' aspect of foreman behaviour have been made in the Michigan studies. In the Railroad study, for example, being 'men-orientated' is contrasted to being 'work- or self-orientated'. In the Office study, besides the employee-centred versus production-centred classification, a logically related attitude is investigated, namely, the degree to which the supervisor identifies with the company, compared to his identification with his employees.

In the Tractor study, it is shown that 'keeping up morale' and 'keeping up high production' are not necessarily opposed methods of supervising.

However, in these three studies the cross-validation on this dimension was very low. Comrey *et al.* obtained three measures of this dimension.

- (i) *Human Relations vs. Production-centred.* Foremen were asked four questions covering the importance of 'getting out the work'; attitude to the current emphasis on the importance of 'human relations'; the proportion of time spent in consulting and counselling subordinates; and the importance of keeping up morale.
- (ii) *Social Nearness.* Subordinates were asked six questions covering the actual participation of foremen in the lives of employees outside actual working-hours.
- (iii) *Sympathy.* Subordinates were asked four questions regarding the extent to which they would discuss their personal problems with the foreman.

Unfortunately, the first measure (Foreman) did not correlate with the other two (Subordinates)—the correlations were $\cdot 03$ and $\cdot 13$ respectively, and neither was

significant. The two 'Subordinate' measures showed a highly significant correlation (P less than .001) of .35.

Rightly or wrongly, the foreman who is described as being 'employee-centred' regards it as being of prime importance to keep his workers happy. He takes a personal interest in them and supports them as much as possible. The foreman who is at the other end of this dimension stresses production and technical aspects; he regards the workers primarily as producers.

(f) *Democratic vs. Authoritarian Methods of Supervision*

Following the experimental work of Lippitt (16) on the effects of different styles of leadership, it would seem desirable to test the implications of his results in an industrial setting.

Comrey *et al.* (4) used the term 'Democratic Orientation' to cover: thinking of oneself as the 'coordinator' of the group rather than the 'boss'; believing that subordinates should have more of a voice in running the department than they do at present; giving in to a subordinate if he disagrees on how something should be done; asking more experienced employees for advice before making a decision.

As a quite separate dimension they also used 'Lack of Arbitrariness'. Subordinates were asked if their foremen were willing to listen to ideas, hated employees to disagree with them, accepted any good ideas from the workers, and so on. Considering the logical relationship and close similarity between these two dimensions, the complete lack of correlation (.04) is surprising. Evidently some external criterion is required before any reliance can be placed on such an important variable as democratic supervisory practices.

In the Office study, section heads were rated in an interview on seven personality characteristics, including 'democratic vs. authoritarian' (p. 29), but we are not told how these terms were defined, nor on what basis the interviewers made their ratings. There is also the implicit assumption that a 'democratic' person would supervise in a 'democratic' way, whereas it would seem more desirable to limit measurement of this dimension to the specific supervisory practices rather than take a global estimate of the supervisor's personality. For our purpose a 'democratic' foreman was regarded as one who: allows discussion and participation in the running of his section; listens to ideas and suggestions; passes on adequate information (explanations, reasons for changes) to his subordinates.

(g) *Discipline*

Finally, there is a dimension covering 'Discipline', which at least one previous research found significant. Katz *et al.* (15) divided their railroad foremen into 'punitive' and 'non-punitive', on the basis of answers from their workers, when interviewed, to the question, 'What does the foreman do when you do a bad job?' Though high-producing sections felt that their foreman reacted non-punitively (p. 18), this difference was not supported by the evidence obtained in interviews with the foremen (p. 19 fn.).

In Comrey *et al.* (4) the four items relating to discipline did not emerge as a separate dimension in the various investigations generally (p. 31), that is 'Discipline' was not related to productivity. But two of the items appeared to be relevant as far as the Lockheed journeymen were concerned, namely, (1) 'He has avoided taking disciplinary measures when the occasion demanded it' (*sic*); and (2) 'He lets people

get away with violating regulations.' There was also an item measuring 'consistency' that directly referred to discipline. These measures were not validated against any others.

In spite of the lack of support for this dimension, it was thought that perhaps it would have some bearing on voluntary absenteeism and labour turnover.

PREVIOUS MEASUREMENTS OF SUPERVISORY METHODS

(a) *Alternative Ways of Measurement*

Most previous work has been done with interview or questionnaire measures of foremanship. Katz and his associates (15), in the Michigan study of railroad gangs, used the answers to single questions in an interview. The main weakness of this otherwise excellent investigation lies in the lack of any attempt at scaling these questions. In the Prudential Insurance Office study (14) they also obtained ratings by the interviewers along the several dimensions used. Other investigators have used some kind of scale-construction. Comrey, Pfiffner, and High (4) used a straightforward method of item-analysis of Likert-type questions to assess their dimensions. Stogdill and his co-workers (21) drew up Thurstone-type scales for Responsibility, Authority, and Delegation. Other scales have been devised as overall tests of good supervision. Castle (3), for example, used the scale-product method—a combination of the Thurstone and Likert methods—devised by Eysenck and Crown (5). In fact this scale contains items about several aspects of foremanship, and we have used modified versions of some of the questions for three of our dimensions. A similar test, used in the U.S.A., is the 'How Supervise?' scale devised by File and Remmers (16). Without further validation it cannot be assumed that questionnaire measures of foremanship or of dimensions of foreman behaviour are satisfactory. Respondents may reply in terms of what they think they are supposed to do—possibly as a result of attending training courses. It is therefore important to see how these scores compare with other measures of supervision.

Another means of assessing the behaviour of supervisors makes use of description of their behaviour by their subordinates. Several investigators in the U.S.A. have used this method, but there is no record of it ever having been used in Great Britain. Katz (15) gave a questionnaire to employees in addition to the foreman interview described above, but again unfortunately only single questions were used. Stogdill, however, used Hemphill's 'Leader Behaviour Descriptions' (11) based on a factor analysis of a large number of items: the final scale has 22 items, representing 6 dimensions. Comrey constructed Likert-type scales for administration to employees, and Jackson (12) compiled Guttman scales. Employee surveys are probably a useful way of assessing foremanship. The results, however, are liable to depend on the satisfaction of the men and on other of their attitudes; therefore this measure of foremanship would not be operationally independent of these other variables, in an investigation of their relationship with style of supervision.

A third measure that can be used is ratings by the foreman's own supervisor—or by other managers acquainted with his methods of working. This has not been widely used, though File and Remmers (7) obtained ratings of overall efficiency to validate their foreman questionnaire.

The best way of recording a leader's behaviour is, without doubt, to do it by

direct observation, using some method of interaction recording. This method was used by Lippitt (16) to analyse the behaviour of his democratic and autocratic leaders, and he obtained contrasting profiles of the frequency of different kinds of behaviour for the two sorts of leader. In an industrial setting, however, there are obvious limitations to the use of direct observations. One-way screens are out of the question, and leaders are bound to be influenced by the presence of an observer—quite apart from the practical difficulties of obtaining permission for such close observation.

(b) *The Validation of these Measures*

To show that a measuring instrument is *valid* is to demonstrate that it really is measuring the variable in question, as it has been defined. In some cases, of course, the instrument is taken as the defining criterion, or operational definition, of the variable, in which case no further check is needed. This would be the procedure when the instrument seems an obviously satisfactory measure in that it corresponds to the ideas or concepts implied in the variable dimension—it is then said to have *face validity*. Most of the methods of measuring foremanship dimensions have some degree of face validity in that they consist of questions bearing directly on the aspects of behaviour in question. However, all such verbal and indirect measurements are open to some doubt in that they may not correspond to more direct records of actual behaviour. When a measurement is shown to agree with more direct observation, or with the operational definition, it is said to have *external validity*. In the case of foreman behaviour this kind of validation has never been carried out, owing to the practical difficulties referred to above. There is, however, another procedure—we may say that a group of indirect measures have *cross validity* if they correlate with one another. In such a case, it is highly probable that errors due to a particular method have been eliminated, though it is logically possible that all are erring in a similar way and would not agree with a direct measure.

There is a certain amount of evidence from previous studies for the cross validity of the measuring devices used. Managerial ratings of *overall* efficiency correlated with scores on the File-Remmers scale (7). Roff (20) compared ratings on *evaluative dimensions* from above and below, in the American Air Force. He found that subordinates rated their officers lower on dimensions such as sincerity, impartiality, and ability to mix with subordinates. Similar work by Halpin and Winer (8) shows that people at different levels in an organization evaluate leadership in terms of different criteria. In one of the Ohio studies, Campbell (2) found that ratings from above and below correlated with each other, but not with the self-evaluation of the naval officers themselves.

All of the above studies used ratings on evaluative dimensions; other investigations have used purely *descriptive* dimensions, as we have ourselves. In both the Michigan and the California studies questions of this type were asked of the foremen and of their men. However, in many cases the questions asked were not equivalent, so that this does not provide a straightforward cross validation. For example, in the Railroad study (15) the foremen were asked if they spent much time on planning, while the men were asked, 'How good is the foreman at figuring work out ahead of time?' In some cases directly comparable questions were asked. For example, Comrey used the dimensions 'Lack of arbitrariness' (based on questions to the men), and 'Democratic orientation' (based on questions to the foremen).

The correlation between the two in this case was only .04. Similarly, in Katz's Railroad study there was disagreement between foremen and men over the foremen's degree of punitiveness in reaction to bad jobs. It may be concluded that evidence for the cross validity of indirect measures of descriptive dimensions of foremanship has rarely been ascertained, and that where it has been measured it has often been found to be unsatisfactorily low.

The approach we have made to this problem consists of the development of four independent (though necessarily indirect) measures of our dimensions, all of which have face validity and refer, as far as possible, to the identical dimensions. We then find the cross validity of the measures in order to retain those which correlate together.

MEASURES

(a) Interviews

Direct observation of the foremen or large-scale surveys of the men have certain advantages from the point of view of research. Both of these methods involve practical difficulties as well as raising ethical considerations. It must be conceded that to take, say, twenty operatives off their work for fifteen minutes each, is a much more serious interruption of production than talking to their foreman for half an hour. There is also some point in the suggestion that operatives may expect certain improvements to follow their discussions with research workers. That dormant dissatisfactions would be aroused is perhaps less likely, though some managements showed signs of insecurity regarding this possibility. In view of the reluctance of certain managements to give us access to operatives, either by questionnaire or by interview, we had to be satisfied with a less direct approach.

We therefore decided on an interview with each foreman in which we would discuss various aspects of his job, particularly his supervisory methods. At first we tried the open-ended, non-directive approach but found ourselves drowned in a sea of technicalities, discussion of the supply position, and other interesting topics not obviously related to supervision. Consequently, we used a semi-directive interview in which we endeavoured to get the foreman to talk on matters more closely related to the five dimensions we were attempting to assess.

At the beginning of our inquiry two of us would jointly interview each foreman for about half an hour. After introducing ourselves and attempting to make it clear that though we were there through the courtesy of the management, our research was completely independent of them, we went on roughly as follows: 'This is an inquiry into the different ways in which foremen run their sections and how this varies with the nature of the labour force (juveniles, for example, or women), and the type of work being done (machining, assembly, etc.). We would like to know something of how you run your shop.'

A few 'warming-up' questions were usually sufficient to start the foreman talking in a general way about his job. Then two or three questions relating to each dimension would be introduced (see Appendix A), and on the basis of his replies the foreman would be rated, by each interviewer independently, on a five-point scale (using $\frac{1}{2}$'s when necessary) for each dimension in turn.

The reliability of our interviewing procedure was worked out by computing

rank-order correlations between the two interviewers' ratings. Interviewer reliability for the five dimensions (21 foremen) was as follows:

Dimension	I	II	IV	V	VI
Average correlation	.93	.59	.68	.77	.71
$P=$	<.001	<.02	<.01	<.001	<.01

The overall average was .74 ($P<.001$). Thus for each dimension the interviewer reliability was better than could have been obtained by chance less than twice in every hundred samples. It was lowest for Dimensions II and IV and it will be noticed subsequently that these dimensions also produced the lowest cross validity (see pp. 306-7).

(b) Questionnaires

We tried to improve on those earlier investigations where single questions were used, by constructing short Likert-type scales for our questionnaire.

We drew up a questionnaire of 32 items, covering five dimensions. Some of the items were modified from Castle's scales (3), others were new. This was administered to 106 foremen on various training courses, and not in our main sample. Item analysis was carried out—the five-point scales being normalized to make them comparable prior to product-moment correlations being computed. Within each dimension those items correlating most highly with each other were retained, and the result was a questionnaire of 17 items, with at least three for each dimension. This is given in Appendix B.

Our method of administration was to give the questionnaire to the foremen at the end of the interview, together with a stamped envelope addressed to us at Oxford. This made it clear that no-one at the works would ever see the form. The foremen do not put their names on it, but are identified by a number written at the top—this creates some degree of anonymity. We asked them to complete the form alone and not to discuss it with their colleagues, but we had no way of ensuring independence of responses. About 75 per cent of the forms were returned without follow-up, the remainder being collected during a later visit to the factory. The method of scoring was the usual Likert method—each item is scored from 1 to 5 and the scores of the items comprising each dimension averaged to give a single dimensional score on a five-point scale.

(c) Managerial Ratings

Managers acquainted with the foremen in our samples were asked to complete the Managerial Rating Form, given in Appendix C. Each dimension is described in terms intended to convey to managers the essence of the dimension, but using quite different words from those used in the other measures. It was explained that these dimensions were purely descriptive, and that we did not know which 'end' of each was the most desirable. Some managers found it difficult to grasp this point and regarded each as an aspect of efficiency—though they did not necessarily guess correctly which end was the best in terms of current human relations training in industry, nor in terms of our final results. These managers suffered from 'halo effect', though we tried to alternate the desirable ends of the rating scales from scoring high to scoring low on the form. In order to avoid 'constant error' we made sure that all of the foremen within each group to be compared were rated by the same managers. We found that the managers suffered badly from 'central tendency',

i.e. they used only the middle points of the five points possible. In order to avoid this we changed our procedure and persuaded the managers to put the foremen in rank order on each of the dimensions separately.

The reliability of this measure can be calculated by comparing the ratings of the same group of foremen by different managers. Considerable variation was found in the extent of this correlation—it was probably spuriously raised in some cases by collusion between the managers, spuriously reduced in others as a result of personal relationship with the foremen. On the whole, however, the agreement was quite good, and our final score was obtained by averaging the ratings.

(d) *The Foreman Description Preference Test*

This test consists of five pairs of cards on which appear short descriptions of antithetical types of foreman. Each pair is coordinated to the extreme ends of one of the dimensions of foreman behaviour being investigated. For example, the dimension General-Close is represented by two cards, one describing an extremely general supervisor and the other an extremely close one (Appendix D).

The cards are presented a pair at a time and the respondent is asked to choose between them. He is told: 'On each of the cards before you is a description of a particular type of supervisor, choose whichever supervisor you feel would be suited to running *your* section.' He is allowed as much time as he likes and need not make a decision if he feels he cannot. His preferred cards are placed in one pile and his non-preferred in another. After he has chosen one from each of the pairs he is presented with his five preferred cards and asked to rank them in order of merit. He is told: 'These are the foremen you have chosen as suited for running your section. If you had to choose from among these five for that job, which would be your first choice, which your second, and so forth?' When he has ranked these he is presented with his five non-preferred descriptions and asked to do the same with them. This completes the test.

The F.D.P. test was devised because the three measures of foreman behaviour previously described (Management Rating, Questionnaire, and Interview) often failed to agree. It was also felt that this measure should do something which our other measures failed to do, namely, get at the salience of the various dimensions, in other words, get at how much importance the foremen attached to that particular class of supervisory behaviour, for example, Pressure. In order to accomplish this it was necessary to combine the scores for each of the dimensions in such a way that 'good' scores on some dimensions could only be attained at the cost of less 'good' scores on others.

Precautions were taken when constructing the questionnaire to minimize the possibility that questions would be answered according to preconceived notions of what the 'correct' answer was (i.e. answers that were in accord with the ideology current in foreman training courses). However, it was felt that the existing variance was greater than that revealed by the responses to the questions, and so it was thought expedient to incorporate a greater degree of rationalization in the new measurement. For example, the following three questionnaire items were meant to get at the dimension Discipline. They read:

A reprimand is sometimes more effective when given in front of others.
If one of his workers comes in late the foreman should first take disciplinary action and then find out why.

If serious offences are not reported to the foreman he should punish the whole department.

Though these questions might not seem particularly subtle they did, in fact, discriminate to some degree.

However, the corresponding foreman description card reads:

feels that the proper running of the shop depends on the maintenance of discipline. He is constantly on the lookout for disobedience of the rules and feels that he owes it to those workers who keep the rules to deal severely with those who do not.

As might be expected this discriminates to a much greater degree. That is, more foremen will choose this card than will agree with the questionnaire items quoted above. Thus the F.D.P. test was devised for two reasons—our desire for finer discrimination and for a measure of salience. As yet it has been used simply as a fourth measure of the dimensions and we are not certain that we should be justified in using the salience scores.

Scoring. Scoring is from 2 to 20. Each card scores between 1 and 10, depending on its final position in the overall rank-order. Thus if the 'general' card is on top it scores 1 for 'general', while if it is at the bottom it scores 10. The 'close' card is scored from the other end, and the two scores added to give the total score for general supervision.

When a foreman could not discriminate between two cards in the initial choice he was given a neutral score of 11 for the dimension, the other dimensions were scored as usual, the total score being corrected to allow for the fact that only 8 (or 6) cards instead of 10 were being ranked.

INTER-MEASURE CORRELATIONS

Foreman behaviour was measured along five dimensions by four separate methods. It was expected that if these measures referred to the same dimensions, they would be correlated to some extent. This would be evidence for what we have called 'cross validity', which with few exceptions has not been tested in previous researches. Rank correlations were run between the measures for each dimension, corrected for ties, and averaged by means of z -transformations when necessary.

TABLE 1 INTER-MEASURE CORRELATIONS FOR EACH DIMENSION FOR 90 FOREMEN

Dimensions	I/Q	I/MR	I/FDP	Q/MR	Q/FDP	MR/FDP	AV. RHO*
I General Supervision	.27	.43	.24				
II Non-Pressure	.07	.16	-.09	-.12	.31	.14	.21
IV Employee-Centred	.01	.06	.13	.17	0	.01	.06
V Democratic	.08	.14	.20	.05	.05	.11	.06
VI Non-Punitive	.03	.27	.21	-.20	-.33	.25	.14
AV. RHO	.09	.21	.14	-.06	.16	.12	.12
				.05	.04	.13	(.12)

* These are weighted averages, allowing for variations in the size of the sample due to lack of data in certain cases.

The inter-measure correlations were disappointing. The average of the six inter-measure correlations for:

Dimension I was	.21
II	.06
IV	.06
V	.14
VI	.12

The correlation for the first dimension is significant ($P=.05$) but the rest could have occurred by chance more than the conventionally respectable five times in every hundred. The low correlations indicate either that our measuring instruments lacked reliability (it was possible to check the reliability of the interview but not of the other measures), or that they referred to different variables, so that each dimension could really be broken down into four—these four being grouped together for convenience and given a common label, such as Employee- vs. Production-Centred, or Pressure for Production, and so on.

Even if the latter possibility be the case, the combination of four measured variables (which can be given a common title, such as those we have used, or a numerical index, such as Dimension Group I, and so on) might still be related to other variables, such as Productivity, Absenteeism, and Labour Turnover.

Examination of *Table 1* shows that our questionnaire did not correlate with the other measures ($.09, .05, .04$). We, therefore, decided to omit the questionnaire scores and to use the three remaining measures. The weighted average of the three inter-measure correlations for:

Dimension I was	.28	$P=.01$
II	.03	N/S
IV	.10	N/S
V	.20	.05
VI	.20	.05

Two of our dimensions still showed an almost complete lack of agreement among the measures purporting to refer to them, namely:

Dimension II	Pressure vs. Non-Pressure
IV	Employee- vs. Production-Centred

These were the two dimensions for which the interviewer reliability was lowest (see p. 304).

At this stage it looked as though they would have to be discarded eventually, but, meanwhile, it was decided to continue with all the dimensions. Rank-orders on each measure were used, and each foreman's average rank-order for the separate dimensions was computed.

INTER-DIMENSION CORRELATIONS

In the Office Study (17) six dimensions of supervision were used, including three of our final list. Quite high correlations were found between the dimensions of the order of $.4$ to $.8$ —and these were furthermore in the expected direction. The General-Close dimension was most highly correlated with the others. In the California studies (4) the inter-dimension correlations do not make so clear a pattern, though it is difficult to identify a number of the dimensions used with those

used in other investigations, and apparently items correlating with more than one dimension were rejected (p. 7).

The inter-dimension correlations found in our research are shown in *Table 2*. These are computed for the five dimensions that were retained, though it should be remembered that the inter-measure validity for dimensions II and IV was very low.

TABLE 2 INTER-DIMENSION CORRELATIONS (N=90)

Dimensions	II	IV	V	VI	
I General Supervision	.37	.37	.40	.12	I
II Non-Pressure		.14	-.03	.30	II
IV Employee-Centred			.42	.22	IV
V Democratic				.41	V
VI Non-Punitive					VI

Of the ten average inter-dimension correlations—again taking a probability value of .05 as the criterion—six were significant and four not. The significant correlations were as follows:

	RHO	P
IV with V Employee-Centred with Democratic	.42	.001
V with VI Democratic with Non-Punitive	.41	.001
I with V General Supervision with Democratic	.40	.001
I with II Non-Pressure	.37	.01
I with IV Employee-Centred	.37	.01
II with VI Non-Pressure with Non-Punitive	.30	.02

These results are similar to those of Morse (17) in that the dimensions are significantly correlated in the expected direction, and in that General-Close is the one correlating most with the others. The lowest correlations are for Dimensions II and IV, which in any case have poor inter-measure validity.

From this it would appear that those of our foremen who might be described as Employee-Centred were Democratic and supervised in a General way; they also tended to be Non-Punitive, and the more Democratic they were, the less Punitive they were. Those foremen who tended to supervise in a General way were Employee-Centred and Democratic and did not use so much Pressure as others. Finally, being Non-Punitive also goes with using little Pressure.

Thus all our five dimensions form a consistent pattern, with all the relationships going in the expected direction. But perhaps a less gratifying interpretation of these correlations should be mentioned. This is that they are due, in large part, to the quasi-logical relationships that obtain among the dimensions, i.e. to the fact that foremen are scored on the basis of overlapping criteria.

SUMMARY

1. Previous measures of style of supervision were shown to be unsatisfactory through lack of external validity or even functional unity.

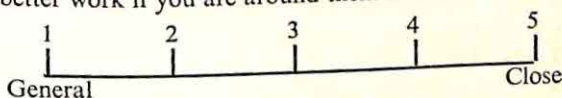
2. Four independent measures were developed, three of which (Interview, Questionnaire, and Managerial Ratings) are familiar techniques, and the fourth—the F.D.P. Test—was developed specially for the measurement of styles of supervision.
3. In the absence of external validity, an attempt was made to establish cross validity by correlating these four measures.
4. The cross validity of these measures was found to be low, the average inter-correlation being significant for only one of the dimensions, when all four measures were used. But when Questionnaire scores were eliminated the cross validity was satisfactory for three out of five dimensions. Dimension scores for each foreman were assessed by taking his average rank-order on the three measures.
5. Five dimensions, selected from previous research, were measured in this way, and the intercorrelations between them were computed. All five dimensions were significantly related.
6. A further paper will report the relationship between these dimensions and productivity, absenteeism, and labour turnover.

APPENDICES

A. FOREMAN INTERVIEW

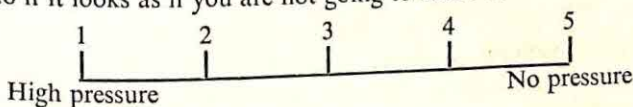
General-Close

1. What happens to the work when you are not there, at this moment for example?
2. Do you have a special office of your own, or part of the workshop divided off for your own use?
3. Can you keep an eye on everyone from your office, or do you go round to keep a check on the benches?..... Do you think this is important?
4. Is it necessary to keep a pretty close eye on the men to make sure that they are working properly?
5. Do they turn out better work if you are around them more?



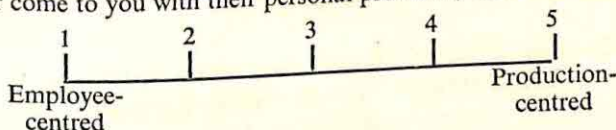
Pressure

1. Do you have to see that your departments turn out a certain amount by the end of the day?
2. What do you do if it looks as if you are not going to reach it?



Employee-centred

1. What is the most important part of a foreman's job do you think?
2. looking after the men, or keeping up production?
3. What part of your work do you find most interesting?
3. Do the men ever come to you with their personal problems, or is there someone else to go to?



1. *Close Supervision* has been defined as the degree to which the foreman checks up on his employees frequently, gives them detailed and frequent instructions, and in general limits the employees' freedom to do their work in their own way. The opposite kind is known as *general supervision*. 1=supervises most closely, 2=next most closely, 3, 4, 5, etc. becoming more and more general in their supervision.

2. Some foremen keep up production by putting Pressure on the men, criticizing their efforts, urging them to speed up, emphasizing dead-lines and targets. How much *Pressure* does he exert in this way? 1=exerts least pressure, 2=exerts more pressure than 1, 3, 4, 5, etc. in order of increasing pressure.

3. A foreman finds various interesting aspects in his job; he may make production his first concern, believing that high production leads to higher wages and that he will make most progress if he emphasizes production. Another may be more concerned with keeping his workers happy, believing that good morale leads to high production. 1=puts most emphasis on production, 2=next most, 3, 4, 5, etc. in order of decreasing emphasis on production and increasing emphasis on morale.

4. Some people divide foremen into *Tough* and *Tender*. The *Tender* type listens to ideas, reasons with his men, explains to them as fully as possible, discusses the work and possible changes with them. The *Tough* type knows his own mind, gives his orders crisply, and expects men to know what he wants; he relies on his superior knowledge to solve any problems that arise. We don't like these adjectives very much but how would you class these foremen? 1=most tender, 2=next most tender, 3, 4, 5, etc. in order of increasing 'toughness'.

5. Discipline. Foremen have their own methods suited to their personalities. Some use tact, others use weight (the weight and authority of their position). 1=uses most tact, 2=next most tact, 3, 4, 5, etc. in order of decreasing tact, increasing weight.

D. CARDS USED FOR F.D.P. TEST (FOREMAN DESCRIPTION PREFERENCE)

Note. The number did not appear on the face of the card.

1. spends little time observing the operators since he feels that they work better without constant supervision. He, therefore, rarely tells experienced operators how to do their jobs because he feels it is best to leave each man to do the job in his own way.

2. spends as much time as he can watching his men work because he feels that it is his duty to put at their disposal his long years of experience. He is, therefore, constantly suggesting better ways of performing their jobs. He insists that the standard method of doing the job be followed under all circumstances.

3. feels that operators work best when not under too much pressure. He, therefore, dislikes urging them to speed up unless production is lagging badly, since he feels that most are already working as best they can.

4. is proud of his production record and is anxious that it should be maintained. He, therefore, spends a considerable portion of his time encouraging his workers to maintain their output and reprimanding those who lag behind.

5. feels that if he can keep his workers happy he need not concern himself directly with production for this will look after itself. He, therefore, takes a personal interest in those under his supervision.

6. main concern is to see to it that the products under his care are of the highest possible standard and that production is maintained at the highest possible level. He is anxious for his workers to show their very best performance, but is not interested in aspects of the work which do not influence production.

7. feels that the shop is just as much the operators' concern as it is the management's. He, therefore, is very responsive to suggestions from operators and confers with them before making any important changes in the working arrangements.

8. feels that as supervisor he must assume complete responsibility for all decisions. He is, therefore, reluctant to confer with the operators about any changes he feels are necessary but goes right ahead with them. He pays little attention to operator's suggestions since he has found that they are rarely of any value.

9. feels that the best way to handle operators is to use persuasion. If he finds them breaking rules he explains the reason for the rule and warns them not to do it again. He is inclined to let minor breaches of the rules slide.

10. feels that the proper running of the shop depends on the maintenance of discipline. He is constantly on the lookout for disobedience of the rules and feels that he owes it to those operators who keep the rules to deal severely with those who do not.

E. THE FINAL SAMPLE

The foremen were drawn from eight electrical engineering factories as follows:

Factory	Incentive Departments							Total	Lieu Rate Departments*			
	1	2	3	4	5	6	7		8a	8b	8c	Total
Department												
Winding	3	3	3	2				11				
Machinery	2	4	3	2		3	5	19				
Assembly	5	3	3	2	5	5	7	30	12	10	7	29
Total	10	10	9	6	5	8	12	60	12	10	7	89

* Lieu Rate can be defined as 'An assessed fixed hourly rate of payment made to a directly productive worker in lieu of piecework earnings in cases where it is not convenient to determine piecework prices for the work.'

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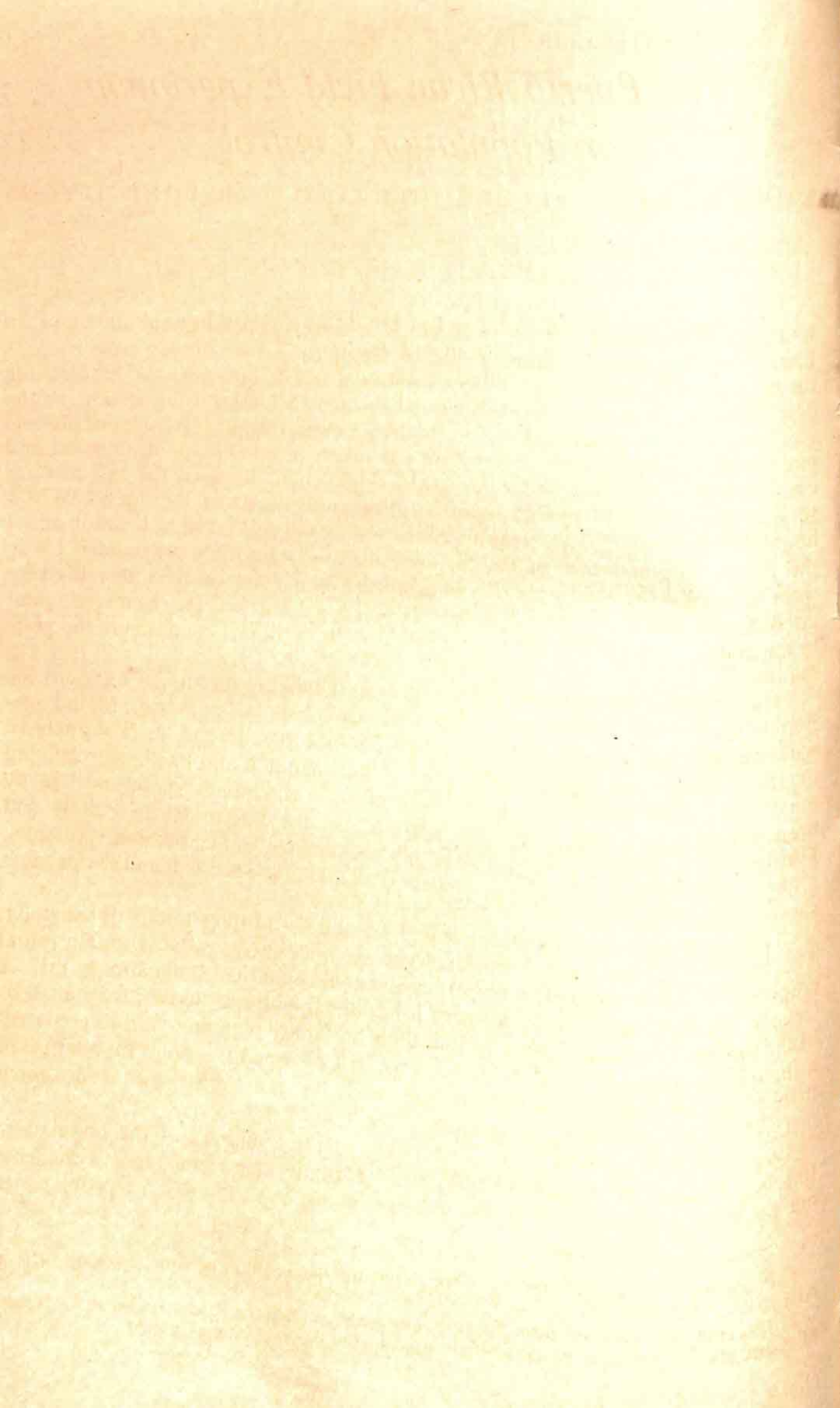
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BIOGRAPHICAL NOTES

MICHAEL ARGYLE has been Lecturer in Social Psychology in the University of Oxford since 1952. After serving in the R.A.F. as a navigator, he read Moral Sciences and Experimental Psychology at Cambridge, where he stayed to do research under Sir Frederic Bartlett from 1950 to 1952. He was a Director of Studies on the Cambridge Managers' Course in 1954-5, and visiting lecturer at the University of Michigan in the summer of 1956. He is the author of *The Scientific Study of Social Behaviour* (1957) and a number of papers on small groups, social theory, and research methods, and is at present Secretary of the Social Psychology Section of the British Psychological Society.

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*The Puerto Rican Field Experiment in Population Control*¹

KURT W. BACK, REUBEN HILL, AND J. MAYONE STYCOS

EVELYN WAUGH, in his novel *Black Mischief* (10), pictures the antics of an English playboy become planning chief on a tropical island. Among other projects the hero turns to the question of overpopulation and designs a poster. An amusing description is given of the poster, which depicted two contrasting scenes: on the one hand, a family group with eleven children manifesting plentiful signs of disease, malnutrition, and extreme poverty; on the other, in conditions of affluence and contentment, a husband and wife with a single child. Between the two pictures was an illustration of modern contraceptive appliances and the legend 'Which home do you choose?' There was no doubt among the enthralled population about the proper interpretation of the pictures: obviously the rich man and his wife were no good—they had only one son; but the poor man was demonstrably very good, for he had numerous offspring. The inference was that the 'Emperor's juju' in the middle of the poster was responsible for the fortunate condition of the poor man.

This text may be taken as a warning against looking for simple solutions for population control. Population changes are social phenomena, measurable in large-scale historical, economic, and cultural effects; but they depend, in final analysis, on the most private, individual behavior. Understanding and intelligent planning must come therefore from the joint efforts of many disciplines, dealing with many branches of social and individual behavior. In the Puerto Rican Family and Fertility Study, population experts, family sociologists, public opinion specialists, group dynamicists, public health and social workers cooperated, and the product shows their influence.²

The experiment on population control was the last of three phases of the study. The first two phases were: I. An exploratory, qualitative study to obtain initial empirical observations and to construct a testable empirical foundation (7). II. A large-scale, quantitative study designed to test the hypotheses derived from analysis of the previous stage, to collect factual data on family planning, and to construct a theoretical model (1, 5, 6). Only after we had obtained this solid foundation of theory and empirical data did we feel ready to experiment with educational methods, the third phase of our study.

We need first to have an understanding of the dynamics of the population. But, beyond this, the very fact of an experiment in this area seemed to us a challenging problem. In this report of the experiment we shall discuss the problems of

1. Presented at the annual meeting of the Population Association of America, May 1956, at Ann Arbor, Michigan.

2. This study has been conducted since 1951 at the Social Science Research Center, University of Puerto Rico. It has received substantial support from the Population Council.

method, of introducing experimental precision into field work in population problems, of marshalling resources to execute the design, to show the way in which the cooperation of the several disciplines can help us to lead the way toward understanding and controlling population changes. The results of the experiment give an example of this in allowing us to verify and extend the model derived from the surveys and to relate the model to the effects of educational programs.

A THEORY OF PUERTO RICAN FERTILITY

The high birth-rate of Puerto Rico represents something of a paradox. The conditions for wide-spread contraceptive use are quite favorable: the desire for small families (two or three children) is almost universal, there is little religious charge, at government public health clinics (4, 8, 9). In spite of this, the birth-rate has stayed quite constant, between 32 and 36 births per thousand population. With a rate of 7.2 deaths per thousand population, the resulting natural population increase of over 2 per cent per year can be dangerous for the development of the island, and stimulate excessive pressure for migration.

The first two phases of the study gave us more facts, which accentuated the paradox, and showed ways to explain it. The extent of information about birth control, and even the amount of use, would make us expect to find a considerable degree of population control. At least 95 per cent of adults know one contraceptive method or more. Even among the rural women with no education—the least informed group—four-fifths know more than one method and one-fifth knows six or more. Similarly, about half the families in several surveys had had some experience in birth-control use. However, there was little effect of birth-control use on fertility. In general, the methods are started fairly late and are used with considerable irregularity. While sterilization—a very popular method in Puerto Rico—does not depend on regularity for its success, it tends to be adopted too late for far-reaching effects. Family planning involves not only use of contraception, but effective and consistent application of birth-control methods.

The theoretical model which was derived from the first two phases of the research program tried to account for the conditions under which family planning will be effective. Our purpose in this task was to supply the connection through which the relationships between demographic variables (such as residence and education) become meaningful. Clearly the link lies in the action of the individual family, in their goals, and their ability to reach these goals. The demographic conditions (or reference groups mediating their influence) affect both the value system and the family organization which makes the family an effective medium for common action.

If the values are in accord with the social development toward industrialization and urbanization and thus favorable to planning for social mobility, it becomes likely that a definite preference for a small number of children will develop. Thus a family with modern views is likely to have a special value system favorable to family limitation. Similarly a family whose communication and authority patterns make joint action possible is able to direct its efforts specifically toward maintaining its desired family size. These two relations are not automatic, but we can expect positive relationships between a modernistic value system and a desire for a small

family and also between efficient family organization and specific action potentials for contraception. On the strength of the desire for a small family and the action

Guidance

~~Escape Psychology~~

T. Voc. Educ. Curric. Guidance

~~Origins~~

Human Relations

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Human Biology

method, of introducing experimental precision into field work in population problems, of marshalling resources to execute the design, to show the way in which

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family and also between efficient family organization and specific action potentials for contraception. On the strength of the desire for a small family and the action potential for this purpose depends the use of effective contraception, provided the couple possesses sufficient information. Effective family planning is thus the resultant of a combination of all the factors, values, action potentials, and information. Less favorable combinations will lead to less effective population control: the couple may use no contraception, quit after using it, use ineffective or extremely drastic methods, or use methods inconsistently.

The model was verified in Phase II, the quantitative survey (5). A factor analysis of the interviews reproduced essentially the same factors of values, information, and communication. The analysis of the interviews showed also that the conditions leading to use of contraception at all were easier to identify than those which relate to the successful use of contraceptive methods. The latter problem, irregular and casual use of contraception, may turn out to be extremely important in Puerto Rico, and be responsible for the small differences in fertility between users and non-users of contraceptives.

DESIGN OF THE EXPERIMENT

A. EXPERIMENTAL VARIATION

Briefly, the experiment consisted of testing the effectiveness of six different educational programs. They had three different contents, and each of these was duplicated in two methods of presentation. The respondents in the educational programs were matched according to selected questions. Based on these questions we had in each program four respondent types. The content of the programs, and the questions by which the respondent types were distinguished, derived from the interview and the theoretical development of the previous phases of the study.

The content of the experimental programs was divided into two types: the first, values favorable to family planning and information about birth control; the second, family organization, mainly communication between husband and wife. A third program included both aspects.

It will be recognized that, of the three factors that we had postulated as necessary conditions for successful family planning, our first experimental type included two, the second only one. Theoretically, a more ideal design would have assigned one factor to each type. This we intended to do originally. However, after some deliberation, we realized that a presentation of contraceptive methods necessarily implies a favorable attitude on the part of the sponsor and that, on the other hand, a program advocating family limitation while refusing to give any information on methods would be too artificial.

The two methods of approach tested were group meetings and pamphlets. Three group meetings were given, a week apart, in the local schools. The first meeting consisted of the introduction of the general topic (planning, communication, or both) by means of role-playing demonstration by the group leaders, involvement of the participants in the role-playing, and discussion of the points brought out in the scenes. The second session started with a movie that dealt with problems of mental health, family life, and family limitation against a Puerto Rican background. The subsequent discussion was led according to the theme of the program,

stressing either family limitation, family organization, or both. The final meeting, in the values and combined programs, was conducted by a physician who gave medical contraceptive information. In the values program the session was conducted in two parallel sessions for men and women; in the combined program, to emphasize communication, a joint session was given for both men and women. In the family organization program, the last meeting was generally a review of the points brought out in the previous meetings, with the participants invited to discuss their own experiences.

The pamphlets, profusely illustrated, were designed to parallel the sessions, bringing out the content of each meeting in simple form. The values series, for instance, consisted of four pamphlets which were delivered in three succeeding weeks. The first pamphlet, 'What is planned, ends well', gave general examples of the necessity of planning, from birds building their nests, to a couple preparing for a child, and preparation for a child's schooling. The second pamphlet, 'A story of two families', took up the family limitation part of the movie of the meetings, comparing a family with three and one with seven children, using the analogy of planting banana trees too closely. The third week two pamphlets were delivered: one, 'How many children do you want', discussed the desirability of having the number of children that one can bring up well; the second, 'Maria solves her problem', showed Maria going to a public health clinic where the doctor explained to her the physiology of reproduction and several contraceptive methods.

It can be seen that each program concentrated on only a few of the topics possible under the heading of values and communication, namely those corresponding to the questions that had shown the higher correlation with contraceptive use in the survey of the earlier stage, planning and the advantage of small families in the values program, communications on family matters in the family organization program. In the latter, however, communication on family planning was specifically omitted, as the program was supposed to test the effect of the general communication level of the family. The combination of improved communication and specific value induction was left to the combined program.

Three different types of content and two different types of presentation give us six experimental conditions.³ Under each condition the design called for 80 families. In addition 160 families were planned for control, and they received only interviews, with no educational program.

The respondents, the families that were exposed to the educational program, were selected in such a way that the barriers for their efficient use of contraception corresponded to a factor in the theoretical model and in the content of the program. To do this each wife was classified as 'high' or 'low' (i.e. disposed toward family planning or not) on values, family organization, and information. The specific questions on which this classification was based were those that showed strong correlations with regular birth-control use in the survey of 888 families of the quantitative verification phase of the project. The questions were the following:

3. The meetings were divided into small and large meetings according to the number of families invited. Because of varying attendance the dividing line was not sharp and there was little distinction between the two types. For our present purposes we shall consider meetings of different types together.

Values

1. An index of family-size philosophy based on the consistency of answering to such statements as 'the more children the better', and 'the less children the better'.
2. Perception of large-sized family. ('How many children are many?')
3. An index of planning, based on belief in planning and statement of own planning.
4. Two questions on general traditional attitudes (preference of respect over love from children, and of children following the father's footsteps).

Family Organization

1. An index of communication, that is extent of discussion of crucial marital issues of common concern.
2. Amount of discussion of birth control and number of children wanted.
3. An index of male dominance, based on items such as: 'Who gives in in arguments?'
4. An index of activities that the husband prohibits the wife.

Information

1. Number of methods of birth control known.
2. Information about free service in public health clinics.
3. Superstitions and fears about child-birth and contraception.

Each respondent was given a score in these fields, combining the different questions. We have thus three such 'scores' for each respondent (for values, family organization, and information), and, dividing the scores into high and low, we could classify each respondent into a type, such as low on all three variables, or high on attitude and family organization and low on information. As this classification was based on the wives' interviews, the family was classified according to the scores obtained by the wife.

There are eight possible types. Using all these types with all possible types of stimulus situations would give too many combinations to execute a manageable experimental program. A useful modification was the selection of only four respondent types. As the best design relating to the program we used the type which was high on all three variables, and the three which were low on only one of the variables. The design looks as follows:

<i>Respondent Type</i>	<i>Attitudes toward Family Limitation</i>	<i>Adequacy of Family Organization</i>	<i>Information on Birth Control</i>
Ready	High	High	High
Uninformed	High	High	Low
Ineffective	High	Low	High
Opposed	Low	High	High

B. EXPERIMENTAL CONTROLS

The respondents, or subjects for the different experimental programs, were intended to be a homogeneous group except for the experimental variations. The

practical limitations were to define a population sufficiently large that a great enough number of respondent types could be found living close enough together for educational programs to be feasible. By the selection of the areas to work in and restrictions on the families to be included the respondents in the different programs were matched on demographic background and relevance of family planning.

The places in which the experiment was conducted were small settlements in the northern coastal plain of Puerto Rico, rural by Census definition, but having at least one hundred households within a one-mile radius, and a school within easy distance to conduct the meeting. Twenty-three such places were identified and assigned at random to an experimental condition. Only lower-class families were included: this was defined as a couple where at least one member had only eighth-grade or less education.

For the second purpose, relevance of family planning, only those families were selected where husband and wife were living together, the youngest child was less than five years old, where there were no indications of infertility such as menopause, and no standard birth-control method was used regularly (condom, diaphragm, jelly, rhythm, or sterilization). In addition, as we wanted to measure change in actual contraception, women who were pregnant at the time of the first interview were excluded. Everything else being equal, we gave preference to younger couples.

THE PROCEDURE OF THE EXPERIMENT

A. SELECTION OF RESPONDENTS

The procedure of the experiment required several steps.⁴ The first consisted of canvassing the communities by a team of interviewers. The mother in each family was interviewed.

The interview began with several questions that determined the eligibility by our criteria. It was continued only with eligible women. The rest of the interview consisted of face-sheet information, the questions from which the scores could be derived, the criteria of attitude toward, and practice of, birth control, and some questions on relations within the community.

Each day, after the interviewers brought in their work, the interviews were scored in the office and the respondents whose patterns fell into the prescribed types were selected. The interviewing was continued in that community until the quotas were filled as well as possible.

The selection of well-defined matching groups for the different experimental treatments is crucial for the possibility of conducting a controlled experiment under meaningful field conditions. In order to achieve this, we had to accept the fact that many of the interviews that were collected would be useless for further purposes. By eliminating four of the possible eight respondent patterns we planned at the outset for at least a fifty per cent loss. The cutting scores between high and low on

4. The complete experiment included several samples. Here we shall treat only the principal part of the experiment, the study of the mothers in the experimental program.

each variable were based on the distributions in the first few places to be interviewed. They were selected empirically in such a fashion that the four desired patterns would occur as evenly as possible.

In practice, the system of selecting respondents ran into several difficulties. The eligible population was relatively small. A woman of proven fertility, living with her husband, had a high likelihood of being either pregnant or sterilized (regular practice of non-surgical methods was less widespread).

Within the eligible population a further loss occurred because the respondents did not distribute evenly into the four types. As we needed three times as many 'high' as 'low' respondents on any particular variable, we had to set the cutting score near the twenty-fifth percentile of the distribution. Therefore, the 'ready' type was more frequent than any other type, and was always filled to excess before the selection was completed. In addition, the three scores were not completely independent. The largest multiple correlation of the three (family, based on values and information) was .34. In addition to increasing the excess of 'ready' types, this relation threatened to lead to a dearth of 'inefficient' respondents. To counteract this, we had to adjust the cutting scores according to the empirical distribution; the final result was that the 'opposed' type made most difficulties in filling.

In order to reach the required number of respondents, several women had to be taken whose knowledge score was below the standard selected for 'high', but who knew enough birth-control methods to be able to use them effectively. This had to be done in 28 of the 143 opposed cases and 12 of the 168 inefficient cases, but in only 4 of them the scores were more than 2 points off the prescribed value. In five communities, even with these compromises, not all quotes could be completely filled. As these places were in different treatment groups, the losses have a negligible effect on the matching of the respondents in the experimental programs. *Table 1* shows the principal characteristics of the respondents subjected to the seven experimental conditions.

Table 2 shows the comparison of the four different respondent types. The main difference between the backgrounds is the higher education of the ready type, and the greater age—and associated characteristics, such as length of marriage and number of pregnancies—of the opposed type. The latter may be an artifact; since, preferring younger couples where we had a choice, we had little leeway in this group to do so, because it rarely had excess respondents. In the three variables on which the classification was based (each represented in the table by one question), three groups are always alike and one contrasting, as could be expected from the design. On the questions closely related to contraception, which were not part of the classification, we find a consistent order of the four types: the ready group is most favorable to contraception, followed by the uninformed, the inefficient, and the opposed.

We can conclude therefore that respondents' selection according to the theoretical scheme was shown to be possible. The cost of this precision was considerable, as we had to discard 928 pre-interviews to obtain respondents for our experiment. However, the value we derived from this procedure was considerable. The families selected for the different educational programs are matched on factors that can be shown to be important for contraceptive behavior. In addition, reactions of the different respondent types to the programs give insights into the workings of the programs.

TABLE 1

SELECTED CHARACTERISTICS OF TREATMENT GROUPS

	MEETINGS			PAMPHLETS		
	Family	Values	Combined	Family	Values	Combined
Education (wife), median years	4.4	4.7	4.8	5.6	4.7	4.2
Education (husband), median years	4.4	4.9	5.5	4.9	4.5	4.5
No. of pregnancies, median	3.5	3.8	3.9	3.6	3.8	4.4
Age (wife), median	26.9	29.4	27.8	28.5	27.9	26.8
Age (husband), median	33.5	35.1	31.9	35.5	32.9	34.3
Age at first marriage (median)	17.9	18.4	17.7	18.0	18.9	18.3
Years in present union (median)	6.8	7.8	7.1	7.9	6.8	8.2
Religion, % Catholic	57.5%	65.0%	61.3%	63.8%	75.3%	67.5%
Contraceptive experience						
Never used	40.0%	47.5%	42.5%	58.8%	38.4%	46.2%
Previous use	20.0%	10.0%	10.0%	15.0%	28.7%	17.0%
Current use	40.0%	42.5%	47.5%	26.2%	32.9%	36.8%
<i>Values</i>						
Family Philosophy Index (median)	8.96	8.50	8.65	8.56	9.52	9.13
(Range 0-12)						
<i>Family Organization</i>						
Communication Index (median) (Range 0-5)	4.08	4.08	3.88	4.22	3.86	3.80
<i>Information</i>						
Number of methods known (median)	4.91	5.03	5.12	4.65	5.25	5.07
(Range 0-7)						
N	80	80	80	80	73	117
						153

TABLE 2

SELECTED CHARACTERISTICS OF RESPONDENT TYPES

	TYPE OF RESPONDENT			
	Ready	Uninformed	Inefficient	Opposed
Education (wife), median years	5.7	4.5	4.4	4.5
Education (husband), median years	5.6	4.5	4.8	4.0
Number of pregnancies, median	3.8	3.3	4.4	5.8
Time of last pregnancy (% less than 2 years)	79.3%	82.1%	60.6%	69.9%
Age (wife), median	26.7	25.7	27.3	31.4
Age (husband), median	32.0	30.2	33.9	38.1
Age at first marriage (median)	18.6	18.1	17.8	18.1
Years in present union (median)	7.1	5.2	9.3	11.5
Religion, % Catholic	70.7%	63.7%	69.3%	68.5%
Contraceptive experience				
Never used	32.1%	45.0%	53.3%	46.9%
Previous use	20.6%	15.2%	17.5%	15.3%
Current use	47.3%	39.9%	29.2%	37.8%
<i>Values</i>				
Family Philosophy Index (median)	9.21	9.41	9.22	5.17
<i>Family Organization</i>				
Communication Index (median)				
(Range 0-5)	4.19	4.35	2.31	4.37
<i>Information</i>				
Number of methods known (median)				
(Range 0-7)	6.06	3.47	5.43	5.39
N	189	168	168	143

B. EDUCATIONAL PROGRAMS ⁵

The preparation of the educational programs, during the six months preceding the programs themselves, was done in conjunction with the graduate class in health education at the School of Medicine of the University (3). The students spent the class in community education and later in field work in the preparation and execution of the program. In addition, the students drafted one of the pamphlets for each program; the others were done by staff members of the study. During the training, the future group leaders were taught both the theoretical and practical aspects of group leadership, taking over in the class the different roles of leader, co-leader, observer, inaugurating role-playing and discussion sessions. Toward the end of the training period, the content of the course was shifted to the actual sessions to be prepared.

For the three programs, the students were divided into three groups, according to their own choices of each other and the preferred topics. Here we deviated from experimental rigor in favor of improving the program. Each group stayed with the same program and no rotation of group leaders, which would have controlled the

5. Howard Stanton, Assistant Director of the Family Project, Angeles Cebollero, Assistant Professor of Public Health, and María E. Díaz, Associate Professor of Social Work, share major responsibility in the planning and execution of the educational programs.

personality of the group leader, was attempted. By not rotating, the leaders gained more experience in their type of session and identified with their program. Within the group, however, the students rotated from session to session, taking alternately the positions of leader, co-leader, and observer.

One of the most difficult problems in the conduct of the meetings was the assurance of attendance at the meetings. As we wanted only those couples to attend who fitted our experimental design, general invitations, by poster or similar means, were impossible. Two methods of inviting families were used. The first contact was always a direct visit by the group leaders, who introduced themselves, described the meetings on family problems that were going to be held, and invited both husband and wife to the meeting. For the following meetings reminder notices through the children in school were deemed to be sufficient. However, after the pretests and the first programs, it became clear that attendance was becoming a problem. Therefore, as far as practicable, personal invitations were repeated before every meeting; in addition, we provided transportation for families living at some distance from the meeting. The meetings themselves were held on Friday night or Sunday afternoon, as the period was the sugar harvest season, and these times—at the beginning and end of the weekend—were thought to be the most convenient for the families to attend. Four meetings, however, had to be called off religious. With all these efforts we succeeded in having 78 per cent of the women and 40 per cent of the men attend at least one meeting. But only 8 per cent of the women and 8 per cent of the men attended all three meetings.

These figures may seem low, if we think of general attendance at community activities; however, in our case, we selected the people to be invited, not by their interest, but by their place in the experimental design. In most other activities the attendance is self-selected by interest.

The pamphlets were distributed by individual messenger, who tried to contact the families at home, only in extreme cases leaving the pamphlets with neighbors. The exposure in the case of pamphlets is more difficult to measure. We know that practically everybody received the pamphlets in their homes, and thus were at least potentially exposed. The actual exposure was measured by questions in the post-interview by three questions. One was simply: Have you read the pamphlets? 83 per cent of the women and 65 per cent of the men⁶ answered yes to this question. The principal reason for not reading was illiteracy (78 per cent of women answering no and 9 per cent of men), but even among those were some persons who had them read by a family member. The other two questions were recognition questions of the pamphlets, one of the front page and one of an interior page; in both cases the respondents were presented with copies from all nine pamphlets. In this way we could obtain a recognition score (from those pamphlets that had been presented to them) and a confusion score (from those pamphlets that had not been presented to them). If the confusion score is two or more, that is, if respondents asserted recognition of two or more pages that they had not seen, we can consider their answer to the recognition question as doubtful. We can take as having had any exposure 98 per cent of the women, if we are lenient and consider all who recognized at least one front page, or 86 per cent if we are very strict and consider only those who were not doubtful and recognized an interior page; the corresponding

6. All data in this paragraph are derived from a 50 per cent sample of the men in the study.

figures for men are 72 per cent and 47 per cent. For exposure to the whole program (all pamphlets) we have corresponding figures of 72 per cent and 49 per cent for women and 12 per cent and 9 per cent respectively for men. By any criteria the pamphlets had a greater chance of reaching the respondents than the meetings.

C. POST-INTERVIEWS

The final step in the experiment was to measure the effectiveness of the programs. Two months after the experimental programs all the original respondents were approached for a re-interview. Only fifteen of the mothers in the original sample for the programs could not be re-interviewed because of moving, illness, or refusal. The attrition between interviews was thus less than 3 per cent.

The interview repeated most of the first interview, except for background items. An introductory section dealt with leisure-time activities and family relations; at the conclusion of the interview several questions asked for a direct reaction to the meetings and pamphlets. Change is therefore measurable, on attitudes and reported behavior on contraception, and on the variables that were originally used for the classification of respondents. In addition we have the respondents' own statements of acting in accordance with the program. In giving more weight to the experimental aspect of the programs than to the purely educational one, we were working more for measurable small changes that would make us understand the dynamics of contraceptive behavior than for actual long-range effects on fertility. However, this last question—did fertility change?—is very important. For this purpose a check-up on the families after one year is scheduled.

Thus, the experimental program could be executed as planned. In only one community did we run into some objections, and the people complained to a government agency because of the intimate questions. As this was one of the most culturally isolated parts of Puerto Rico, we considered abandoning this place because of the special conditions, and actually substituted the place we had kept in reserve. Further investigation and discussion with the agency concerned convinced us that we could continue the program even in this place, and in the post-interview the relations were most cordial. For this treatment—pamphlets with combined content—we have thus three communities.

With this one exception, we found no resistance to the experimental programs. On the contrary, especially where pamphlets had been distributed, the post-interviewers were welcomed in a very friendly manner and asked when more programs would be given. To a question whether they would want more meetings 88 per cent of the women and 97 per cent of the men answered yes. To the similar question on pamphlets 96 per cent of the women and 72 per cent of the men answered yes.

DISTINCTION OF PROGRAMS

Before discussing the effects of the different programs, we must determine whether the families saw them in the way they were intended to: that is, did they distinguish the different contents, and did they recognize the same content whether it was presented in meetings or pamphlets?

They were asked: What do you think was the purpose of the meetings (pamphlets)? The answers to the question are shown in Table 3. In the value-information

programs birth control or family limitation was by far the most frequent response. In the family organization programs, the women saw principally family problems as the purpose, but with less agreement. The carry-over from the pre-interview left the impression even for some women in this group that family limitation was the main topic, although it was actually hardly mentioned at all. Further, especially in the pamphlet groups, there seems to have been some confusion about the real purpose, and vague or evasive answers, like 'to live better' or simply 'to teach', were frequent. The combined treatment stands somewhat between the two simple

TABLE 3

RESPONDENTS' PERCEPTIONS OF MEETINGS

	MEETINGS			PAMPHLETS		
	Value- Information	Family	Combined	Value- Information	Family	Combined
<i>'What do you think was the purpose of the meetings (pamphlets)?'</i>						
Birth control	58.6%	11.3%	60.3%	39.5%	4.6%	38.7%
Encourage small family	8.6%	0.0%	3.8%	21.2%	10.8%	14.2%
Solve family problems	10.3%	47.2%	20.7%	7.6%	20.0%	5.7%
Talk, discussion in general	0.0	0.0	0.0	0.0	7.7%	0.9%
How to bring up children	1.7%	9.4%	3.8%	3.0%	4.6%	0.9%
How to live, act better	12.1%	9.5%	1.9%	3.0%	4.6%	6.6%
'Teach', 'Entertain'	0.0	7.6%	5.7%	21.2%	41.5%	29.2%
Other	0.0	0.0	1.9%	4.5%	6.2%	3.8%
Does not know	8.0%	15.0%	1.9%			
N (excluding no answer)	58	53	53	66	65	106
<i>What did they teach? (multiple answers)</i>						
Birth control	81.1%	12.5%	61.4%	72.6%	29.7%	74.7%
Physiology	9.4%	0.0	6.8%	0.0	0.0	3.0%
Encourage small family	13.2%	5.0%	25.0%	66.1%	32.8%	55.6%
Go to public health clinic	3.8%	0.0	2.2%	3.2%	12.5%	9.1%
Planning	49.1%	27.5%	11.4%	22.6%	37.5%	40.4%
Discuss with husband	3.8%	5.0%	4.5%	0.0	14.0%	11.1%
Cooperate with, trust husband	0.0	47.5%	38.6%	1.6%	18.8%	10.1%
Talk, discuss in general	0.0	2.5%	2.2%	0.0	23.4%	9.1%
How to raise children	13.2%	50.0%	31.8%	0.0	0.0	0.0
Nothing	0.0	0.0	0.0	9.7%	7.8%	2.0%
Small details and other	15.1%	7.5%	22.7%	19.3%	12.5%	25.2%
N (excluding no answers)	53	40	44	62	64	99

programs: family limitation is mentioned a little less frequently, and family problems more, and we find an appreciable number of vague answers.

A similar picture emerges from the answers to the question, What was taught in the meetings? (or What did you learn from the pamphlets?). Birth control was learned in the value-information program, and talking to the husband and cooperation with him in the family organization meetings. Here the respondents were not restricted to one answer, and combined programs could really have taught the sum of the two other ones. However, again the responses in this group are between the two others, although sometimes close to one or other program. It seems that

there is a limit to the points that can be transmitted in a program of this kind, and extent and breadth of content is compensated by loss of individual points.

Within each topic it seems that there was different success in reaching the audience by our two methods. In family planning the pamphlets succeeded better in transmitting the idea of family limitation, the meetings in actual technique of contraception. In family organization, the pamphlets were superior in treating communication even generally in the community, the meetings in giving the idea of trust and cooperation in the family. The greatest difference is in planning, which was considered as a part of the values program, but in the pamphlets was better imparted in the family program. A check of our material revealed that the planning pamphlet was very general and somewhat primitive (and little liked by the respondents); in the family series one story that dealt with the necessity of communication to reach a desired end could be just as well taken as advocating common planning for this end.

Although with only one set of pamphlets and one series of meetings it is difficult to talk about the superiority of one method in general, the data and the impression gained in administering the programs would suggest the following. General ideas can be put into a pamphlet in the form of a story which can be quite obvious, while in a meeting hammering on one idea is deadening, and visual aids such as movies may be distracting. In meetings, however, methods and actions can be patiently discussed and the group be led to a specific conclusion. In short, pamphlets lend themselves better to the vigorous presentation of a few values, meetings for the dissemination of a variety of ideas or complex facts.

For the principal variables, family limitation and family organization, the two approaches are sufficiently similar that we can combine them to discuss the effect of content of the program.

EFFECT OF THE PROGRAMS

The principal measure of the effect of the experimental programs on contraception is the reported use of birth-control methods for the two months preceding the pre- and post-interviews.⁷ The change means something different depending on whether the wife was using contraception before the program or not. For the women who were not practising birth control in the pre-interview, whether they had done so before or not, any use in the post-interview was a change. For those who were practising contraception we have two possibilities: (a) they could improve, that is change to more efficient methods or use contraception more regularly; (b) they could not improve, or even decline. In discussing the effect of the programs we shall include only the families who were actually exposed to them, i.e. exclude the non-attenders.

Some of the respondents were pregnant at the time of the post-interview, and it was meaningless to ask about present contraceptive practice. We shall here consider only the women who were not pregnant.

7. Reported behavior may not be exactly the actual behavior, and we find some disagreement between husband and wife on the practices used. In spite of its imperfection the change reported in the interview can be used as a good indicator of behavior. Preliminary results from a recheck after one year showed that women who had reported consistent use of contraception in the interview had lower birth-rate. This validates the use of the interview here.

In dividing the respondents by the content of the program we have a first picture of the importance of the three factors of our model (*Table 4*). Initiation of birth control was best achieved by the value-information program. The absolute effect of the programs becomes more pronounced in those respondents who had used birth control previously and were not doing so now. In the value-information programs, 15 out of 21 of these women resumed use, while in the control group only 9 out of 23 did so. The approach centering on these two factors encouraged the women to start birth-control use again.

TABLE 4
CONTENT OF PROGRAM AND BIRTH-CONTROL USE*

	<i>Values-Information</i>	<i>Family</i>	<i>Combined</i>	<i>Control</i>
<i>Non-users</i>				
% started	45.6%	31.0%	38.2%	23.9%
N	57	58	68	71
chi square*	$\chi^2=6.75, p<.01$	$\chi^2=1.15, n.s.$	$\chi^2=3.36, p<.10$	
<i>Users</i>				
% improved	40%	34.5%	23.2%	31.9%
N	35	29	43	47
chi square	not sig.	n.s.	n.s.	

* On this and the next table significance is computed by comparison with the control group. As there is evidence that the pre-interview itself—that is the 'control treatment'—had some effect, this test is extremely conservative and understates the effect of the treatment (pre-interview plus educational program). In the text, therefore, emphasis is laid on the whole pattern of absolute changes.

* Compared with control.

But what conditions are needed to maintain efficient contraception? Here we can turn to the figures on change of the users, but they do not show any overall effect of the content of programs. As all the users are originally very irregular we would expect changes, and this is borne out by the control group. However, none of the other groups is particularly superior to the control group, either in preventing decline or in encouraging improvement. The ineffective use of contraception is a central question in Puerto Rico's population problem and merits further analysis.

We have seen that in the meetings and pamphlets groups, somewhat different aspects of the program were emphasized. The two approaches differ also markedly in their effect⁸ (see *Table 5*). In the overall effect of each method the pamphlets tend to promote start of contraception, the meetings continuous use. Although only small numbers are left to assess the effect of each specific program, we still find a definite superiority of the value and combined pamphlet programs to the starting of contraception and of the value and family meeting programs to its continued use.

The situation we have here is similar to that discussed by Brim (2), who also distinguishes between starting and maintaining a new behavior pattern, in his case permissive feeding of children. For starting merely high prestige of the experimenter

8. One difference between the meeting and pamphlet programs is, of course, that practically everybody who was exposed to the pamphlet program at all was exposed to the whole program while that was not true of the meetings where a great number of respondents attended only some of the meetings. As could be expected the greatest effect of either program was in the families who participated in the whole program. The differences discussed here, however, were consistent with any amount of participation and, if anything, were accentuated in the respondents who were exposed to the whole program.

TABLE 5

TYPE OF PROGRAMS AND BIRTH-CONTROL USE

	MEETINGS				PAMPHLETS			
	Values- Information	Family	Com- bined	All Meetings	Values- Information	Family	Com- bined	All Pamphlets
<i>Non-users</i>								
% started	33.3%	33.3%	26.3%	31.2%	56.7%	30%	42.6%	42.0%
N	27	18	19	64	30	40	49	119
<i>Users</i>								
% improved	53.3%	57.1%	18.1%	39.2%	26.3%	13.3%	34.8%	29.8%
N	15	14	22	51	17	15	23	47

Note: Effect in starting contraception is significant for values-information pamphlets ($\chi^2=10.11$, $p<.01$) and all pamphlets ($\chi^2=6.30$, $p<.05$) compared with control group.

was sufficient, whereas for long-range adoption continuous satisfaction with the new behavior patterns was required. These factors were independent of motivation, that is they were effective while motivation was not changed. Action is determined, given generally favorable conditions, by the integration of the new behavior pattern with the accustomed way of life and its positive accentuation to make it a favored choice.

Here we find a clue to the difference between accepting a plan and acting on it. There is much of the future that can be controlled: in the field of health alone, there are many hygienic, dietary, and prophylactic programs that one could follow and be certain of obtaining agreeable results. However, it is unlikely that a person would follow all of these. Among those that are in accord with his values and capacities he will only select those that are favored by some feature like additional clarity, prestige, or immediate relevance, which we shall call here *saliency*. However, even a salient new pattern may be abandoned if it does not bring any immediate satisfaction. In family planning the success at first is mainly negative—no pregnancies—and the positive values in terms of improved family living are realized years later. In this case, maintenance must often be supported by an immediate improvement in family relations, which was the auxiliary part of the educational program.

We can now propose the following links between the theoretical model and the effects of an educational program.

- For effective use, the presence of the factors of the model (values, family organization, and information) and their immediate saliency are necessary.
- If the factors are minimally favorable (a condition that seems to be met for an overwhelming majority in Puerto Rico), increase in saliency alone will promote the use of contraception, if only in a very sporadic way. More consistent contraceptive behavior will result from a change in the basic factors themselves.
- The more specific the content and the fewer topics covered in a program, the more the program will tend to increase saliency. Conversely, a program covering many general problems is more likely to change the basic attitudes.
- Turning now to the type of presentation, pamphlets lend themselves better to transmitting limited specific appeals and meetings to treating general topics fully.

This scheme explains why pamphlets and the most direct program (values-information) were most effective in starting use of contraception; it also shows that increase of actual use needs an intensive program—perhaps more intensive than

any of the programs in the study, but best approximated by some of our meeting programs. Within the limitations of the programs the meetings could treat only a limited number of topics fully. The combined programs represent therefore a compromise and could not be as effective as a series of meetings devoted to only one subject.

THE PROGRAMS AND RESPONDENT TYPES

The model that has been developed above is particularly useful in analysing the effect of the educational programs on the different respondent types. Here we find the most striking division between the ready group and the other three groups. The first included women who were favorable on all the three factors, but who still did not practise birth control effectively. From the point of view of the original

TABLE 6
EFFECT OF PROGRAMS ON DIFFERENT RESPONDENT TYPES

	CONTENT			METHOD		
	Value- Information	Family	Combined	Meeting	Pamphlet	Control
READY TYPE						
<i>Non-users</i>						
% started	64.3%	54.5%	62.5%	42.7%	70.4%	50%
N	14	11	16	14	27	16
<i>Users</i>						
% improved	40.0%	37.5%	41.2%	35.3%	44.4%	42.9%
N	10	8	17	17	18	22
UNINFORMED TYPE						
<i>Non-users</i>						
% started	44.4%	25%	33.3%	41.2%	32.3%	16.7%
N	18	12	18	17	31	18
<i>Users</i>						
% improved	50%	42.9%	0.0%	36.4%	23.1%	38.5%
N	8	7	9	11	13	13
INEFFICIENT TYPE						
<i>Non-users</i>						
% started	43.8%	22.7%	25%	22.2%	32.5%	22.2%
N	16	22	20	18	40	18
<i>Users</i>						
% improved	20%	50%	27.3%	50%	25%	11.1%
N	5	4	11	8	12	9
OPPOSED TYPE						
<i>Non-users</i>						
% started	22.2%	30.8%	35.7%	20.1%	30.1%	10.5%
N	9	13	14	15	21	19
<i>Users</i>						
% improved	36.4%	20.0%	12.5%	40.0%	7.1%	0.0%
N	11	10	8	15	17	3

theoretical model they would be deviates; however, this deviant behavior may be explained in great part by a lack of saliency of the issue. Indeed we find in this group the greatest effect of the program (see *Table 6*). The pamphlets were more effective than the meetings for these respondents, while there is little difference by the content of the program.⁹ The increase in saliency by itself produces the change. Surprisingly enough, this happens even in the control group. We cannot say whether this is the consequence of the pre-interview or reflects a normal change in this group. We would be safest in saying that it is a combination of the two, a normal turn-over accentuated by the interest generated by the pre-interview. This view finds support in the fact that the difference between the change in contraceptive behavior of the control group, and the most influenced group (the pamphlet program group), decreases with previous contraceptive experience: Two out of 8 never-users in the control group started birth-control use, as compared to 9 out of 16 in the pamphlet group; 6 of the 8 quitters in the control group started again, and 10 out of 11 in the pamphlet group. This compares with improvement of 10 out of 22 (control group) and 8 out of 18 (pamphlet group) among the users, practically no effect due to the educational program. As saliency should increase from never-user to quitter to user, a smaller increase becomes necessary for effect and the interview by itself is more and more sufficient.

The educational programs affect the *ready* respondents principally by the increase in saliency of the issue. In these groups, in general, the pamphlets are superior in starting contraception, the meetings in improving current use. The principal exceptions are the uninformed women who are more likely to start contraception after attending meetings. This exception seems reasonable, as meetings were better able to transmit exact instructions in contraceptive methods, and were perceived as doing so. As far as method of presentation is concerned, we find that, as in the ready groups, increase in saliency produces start of contraception in these respondents, though to a smaller extent. For improvement of existing use, however, the change in basic attitudes produced by the meetings was needed.

The type of content gives a less clear-cut pattern. The most definite trend is the superiority of values-information in starting contraception. Although the trends are consistent with the theory, the differences are too small, considering the small numbers involved, to be more than a tentative additional confirmation.

THE INTERVENING VARIABLES AND EFFECT ON CONTRACEPTION

The conclusion that the manner of presentation is more important than the content of a program is quite surprising. One reason may be that the nominal topic of each program does not tell exactly what is taught in that program: there were some differences in perception of the program in meetings and pamphlets, and there may have been differences even between respondents in the same program. This is the more likely, since the programs extended over three weeks, with different attendance and fluctuation of interest among those who participated. In testing our model it would be preferable to have a measure that reflected changes

9. A further breakdown by the separate programs is precluded by the small numbers remaining in each cell.

in the intervening variables, values, family organization, and information. We have such a measure in the change of the scores on which the respondent types were constructed. Its relation to change in contraceptive behavior can give a demonstration of the workings of the model. For this analysis we shall make a somewhat different selection of respondents from the previous one. We shall take all respondents in the experimental programs, excluding the control group, but including the non-attenders. We do this because we do not wish to include the largely random changes in the control group; on the other hand, in the experimental groups, even the families who refused to attend were affected by the program although sometimes in a negative direction. Their reaction is therefore meaningful in this context.

Table 7 shows the bi-serial correlations of the change of scores to contraceptive behavior for the respondent groups. Several facts stand out:

TABLE 7 CHANGE IN SELECTION SCORES AND USE OF BIRTH CONTROL

	CHANGES IN:						N
	VALUE <i>r with start</i>	SCORE <i>r with improvement</i>	FAMILY <i>r with start</i>	SCORE <i>r with improvement</i>	INFORMATION SCORE <i>r with start</i>	<i>r with improvement</i>	
Ready	.23	.09	.24	.50**	-.12	-.21	
Uninformed	.34**	.39**	.21	.35**	.22	.30*	50
Inefficient	.27*	.19	.34**	.64**	.31**	-.47*	55
Opposed	.41**	.07	.37*	-.08	.02	.15	73
							44
							41
							23
							38

* Significant at 5% level.

** Significant at 1% level.

1. The ready group is least influenced by the change in the intervening variables. This corresponds to our assumption that for this group only increase in saliency is needed.
2. In the other groups change in contraceptive behavior is closely related to the change in the variable concerned. In the opposed group change in values indicates most behavior change, and in the inefficient group change in the family organization score is most influential in changing contraceptive behavior. In the uninformed group change in values is most effective; however, of all groups this one is most affected by the change in information score.
3. If the value score increases, the initiation of contraception is most likely. High positive values, beside being a necessity for action, seem to make the issue salient enough to initiate action.
4. An increase in the family score was more likely to be accompanied by improved action than by initiation (with the exception of the opposed group who are acting in this case in contrast to their attitudes and for whom discussing this conflict may not resolve it). This corresponds to the statement that efficient organization is necessary to maintain action and that therefore basic changes are needed for effective birth-control behavior.
5. Change in information score was related to changed behavior almost exclusively among the uninformed group, the group toward which the informational

part was aimed. This reflects the position of information in our model after values and family organization; it can only be effective after the other conditions are satisfied.

These correlations confirm the place of the different content variables in the theoretical scheme. The experimental approach helps us also to state with some confidence that values, communication, and information are indeed the antecedent variables since in effecting their change we could change contraceptive behavior.

SUMMARY AND CONCLUSION

The experiment considered here was the third stage of a program designed to study the determinants of fertility planning in a high-fertility area. The principal aspects treated were the following:

Methodological. Even in a field study of such an elusive topic as family planning it is possible to conduct a controlled experiment, isolating theoretically relevant variables. Matched groups of respondents were submitted to educational treatments, which conformed to an experimental design of content and method, and the effect of these programs was measured. This was done in the normal setting for health education.

Theoretical. The experiment would validate the theoretical model of readiness for family planning that had been developed in the previous stages of the program. In particular, the importance of three factors, a favorable value system, adequate family organization, and sufficient information, was demonstrated. The experiment went beyond the previous theory by investigating the step between readiness and action. Taking this step was correlated to the saliency of the issue, defined as the integration of the problem into the usual life pattern and its positive accentuation among other patterns for which readiness exists.

Action-oriented. The main implication of the experiment for future educational programs is the need for adaptation of the program to the general demographic situation. Not only the social, cultural, and psychological factors favoring or hindering family planning must be analysed. It is also necessary to determine what stage in the progress toward family planning has been reached: whether the necessary ground work in values, action potential, and information is missing, whether a favorable predisposition waits to be translated into action, or whether a pattern of family planning has been started and is not stabilized. An appropriate approach of educational programs must be designed to fit the specific situation.

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BIOGRAPHICAL NOTES

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Measurement of Behaviour Structures by Means of Input-Output Data¹

P. G. HERBST

THERE are two methods by which a system, no matter what kind, may be studied. We may study it directly by inspection, find out what its component parts are and how they are dynamically interrelated; or we may without interfering with its internal functioning find out how the system transforms a given set of inputs into outputs, and use the input-output relationships found to infer the internal structure. The latter method is of particular relevance in both the biological and the behavioural sciences, either because it is not feasible or in some cases not possible to get inside the system, or simply because input-output data are frequently more easily available.

In the present paper, which is exploratory in nature, an attempt will be made to show by means of an essentially simple model how data on input, output, and size of a behaviour system may be used to obtain measures of its internal structure. The diagnostic technique will be applied to group and organizational functioning and illustrated by data on the relationship between social structure and economic functioning of retail establishments.

The term behaviour system is used to refer both to individuals and to social organizations in the sense that both can be defined within a behavioural frame of reference as boundary-maintaining units of interdependent activities and activity-control functions both with respect to internal and external relationships. By a boundary is meant any critical value of system variables beyond which a change in structure occurs. In the special case where going beyond the critical value leads to disintegration or dissolution of the system, we have an external boundary.

A characteristic shared by all behaviour systems is that, in order to maintain themselves, they have to set up some form of reciprocal relationship with their environment. More specifically, the input they obtain is dependent on the output that they supply to environmental units with which they are linked. Within the system itself intake and output are linked by internal processes of distribution and transformation. Before going on to a discussion of the model in more detail, it will be necessary to consider whether concepts of this type can be used to represent the process of group functioning.

In the case of human organizations the internal processes and interactions with the environment can be looked at in terms of three distinct aspects. There are first of all:

1. Social interactions within the group and relations of the group to the behavioural environment within which it is located. Social interactions include transformation processes in the form of assimilation and learning; distribution

processes in the form of assignment of tasks, status, and responsibility; intake-output processes with respect to group members and the control of social processes both within the group and with respect to the relation of the group to its environment.

The second aspect concerns:

2. Techno-ecological processes within the group and techno-ecological relations to the environment. Here we include the technological and ecological facilities available to the group; the structure of the operations system which includes both the transformation and distribution structure; the control of transformation and distribution processes; and the import and export of materials, tools, and ecological facilities.

Thirdly we have:

3. Economic processes that concern the valuational aspects of both the social and the technological intakes, outputs, and internal operations. The value of some activities and exchange operations is measured in terms of an objective currency standard. Currencies of one type or another may be looked at as technical inventions that facilitate exchange through frequently used channels. It should be stressed, however, that economic behaviour is not limited to the use of currencies but that in practice all behaviour has a valuational or economic aspect.

A human organization may, then, be looked at as a system of behaviour which has social, technological, and economic aspects. We speak of different aspects, since a group is not a system of activities some of which are social and others economic or technological, but rather every activity may be analysed with respect to any one of these frames of reference.

Take, for instance, the sales activity in a retail store. This may be looked at from the point of view of the interaction between the customer and sales girl, and the impression each forms of the other. It may be looked at from the point of view of an operations sequence consisting of the receipt of an order by the sales girl, the girl looking for and transporting the article to the sales desk, wrapping up the article, writing out a bill, etc. Finally, we may study the activity by recording that the price of articles is fixed and not subject to bargaining, the transaction is one of cash in exchange for goods, we may note the cost of time spent by the sales girl with the customer against the value of goods sold, and the cost of material and sales operations in relation to the sales price. In each case we are looking at the same activity within a different frame of reference.

It may be noted that in the study of physical phenomena we proceed in a rather similar way. The physical object may be studied in terms of its weight, its colour, or its temperature. Technically this process may be described as filtering. Each time for the purpose of description and measurement we use a filter which lets through a certain range and type of data as significant and rejects other types of data. In the above example it is known that each aspect represents for practical purposes an independent dimension, that is, we can change the colour of an object without affecting its weight, or change the temperature up to a certain point without affecting the colour of the object. This, however, is not always the case. It is known for instance that the pressure, volume, and temperature of a gas are interdependent.

so that for the study of these phenomena we need to obtain simultaneous measures of all three characteristics, or keep one or the other constant, if we want to study change phenomena.

In the study of human organizations we face a similar problem. We can filter out information about the social, technical, and economic aspects of the process of group functioning. These however are found to be interdependent with one another.

Let us again take as an example the sales activity in a retail store. Suppose we change the shop from over-the-counter selling to self-service, which represents a technological change. The customer now selects the goods she wants to buy and takes them to the cashier's desk, where they are wrapped up and paid for. The technological change alters the interaction process between customer and assistant, and also changes the economic valuation of the assistant's activities. Or suppose we change over from fixed-price sales to bargaining. This will evidently modify the interaction process between customer and assistant. The effect on the technological process is more complex. It may be noted that an increase in size of a retail store beyond a certain point is as a rule possible only by a switching over from bargaining to fixed-price sales. A change of this type may thus turn out to be incompatible with the existing socio-technical system.

In the study of human organizations we therefore need to consider the whole network of social, technical, or economic processes, or attempt to keep one or the other constant for the purpose of comparative study. Methods and concepts for studying the relation between social and technical organization have been developed by E. L. Trist (8) and A. K. Rice (6). The illustrative data that will be discussed in the following sections are based on relationships found between the social structure and economic functioning, keeping the technological structure constant so far as possible.

LEVELS OF ORGANIZATION

We may distinguish between three levels of organization, which will be referred to respectively as an assembly, a simple system, and a complex system. An *assembly* is defined as a set of elements whose output is proportional to the number of elements and the amount of input supplied. We can use this as a base-line model. A *simple system* has the following additional properties:

1. It has minimum boundary values, both with respect to size and input required, below which it will cease to function.
2. The input that it obtains is linked to and dependent on the output supplied to one or more environmental units.

As the size of the simple system increases, and depending also on the extent of both its internal and external linkages, more and more work has to be carried out on the coordination of component functioning, so that a critical boundary value with respect to size is reached, beyond which intrinsic regulation breaks down. An increase in size beyond this point will become possible by differentiating out a separate *integrating unit*, which takes over the function of both control and coordination of component units, thus leading to a transition from a simple to a *complex system*. The point at which intrinsic regulation breaks down will be determined by the effectiveness of the organizational structure. The less efficient

the organizational structure happens to be, the earlier the point at which intrinsic regulation breaks down.²

Let us consider first the characteristics of a simple system. The variables we are concerned with are measures of a given input, measures of a corresponding output, and an appropriate measure of system size.

Characteristics of Simple Systems

In the simple system the input obtained is dependent on the output supplied to one or more environmental unit. However, even if the system ceases to be output producing, there is some minimal input quantity that is required if the system is to survive. This is stated by the input-output function shown in *Equ. 1 (Table 1)*.

The output achieved will depend on the size of the system. An increase in the output accepted by environmental units will lead to increased size; and a decrease in the output accepted, i.e. a decreased demand for whatever is produced, will lead to a reduction in size. Again there is a minimal boundary value, in this case with respect to size, below which the system cannot maintain itself in existence. This is shown by the output-size function in *Equ. 2*.

From the above two relationships one interesting consequence follows, namely, that the ratio of input to size will be a constant. This is perhaps the most sensitive test of whether a unit studied constitutes a simple system.

The illustrative material is based on data obtained from small shops forming part of a retail chain and very similar to one another with respect to their technological structure. The measure of system size used is the number of persons employed in each shop. Output is measured by the sales turnover achieved, and input is measured by the total amount paid in wages.

Fig. 1 shows that the total amount paid in wages increases at a linear rate with the sales turnover achieved. However, even if the shop were to make no sales whatever, then some minimum amount still has to be paid out in wages to the shop personnel.

Fig. 2 shows that sales turnover increases at a linear rate with the size of the shop in terms of the number of persons employed. If there is an increased demand and sales turnover increases, more men are employed. If demand decreases, fewer men are employed, so that an equilibrium is maintained between shop size and sales turnover. However, even if no sales are made at all, there is still a minimum number of persons, in this case one person, required if the shop is to maintain itself in existence. It is interesting to note that in this context a single individual constitutes in a very real sense a group consisting of one member. In the case of manufacturing industries, which employ a more complex technology, the minimum size of the organization is likely to be much larger.

Fig. 3 shows that the average wage per shop, that is, the ratio of total wage paid divided by the number of men employed, is practically a constant.

The data thus show that these shops have the characteristics of a simple system. In this specific case we may conclude from the findings that they constitute groups

2. Findings by A. R. Luria (5) are of interest in this connection. He reports that, under conditions of stress in the form of increased demand placed on children and also under pathological conditions, self-regulating behaviour is replaced by regressed behaviour in the form of more extrinsic behaviour control. From the point of view of system functioning, this corresponds to the breakdown of self-regulation in groups under conditions of excessive demand load or faulty organization.

in which all members participate in productive functions and as yet no separate administrative component has been differentiated out. Before we go on to consider how the input-size-output functions are altered if an administrative unit is present, we shall need to consider first of all what are the conditions under which intrinsic regulation breaks down, and an extrinsic integrating unit takes over the function of control and coordination.

TABLE 1

SYSTEM MODEL	GROUP FUNCTIONING
I = input	W = amount paid in wages in £'s
I _{min} = minimum boundary value of input	W _{min} = minimum boundary value for wages
U = output	S = sales turnover in £'s
N = size of system	N = number of persons in the organization
N _{min} = minimum boundary value for size of system	N _{min} = minimum boundary value for number of persons
G = size of integrating unit	A = number of persons exclusively in managerial and administrative roles

SIMPLE SYSTEM

Type of Function	
input-output $I = a_1U + I_{\min}$	$W = a_1S + W_{\min}$ (1)
output-size $N = a_2U + N_{\min}$	$N = a_2S + N_{\min}$ (2)
$\therefore I = \frac{a_2I_{\min} - a_1N_{\min}}{a_2} + \frac{a_1}{a_2}N$	
but if $N = 0$, $I = 0$, so that	
input-size $\frac{I}{N} = k$	$\frac{W}{N} = k$ (3)
efficiency $\frac{U}{N} = \frac{1}{a_2} \left(1 - \frac{N_{\min}}{N} \right)$	$\frac{S}{N} = \frac{1}{a_2} \left(1 - \frac{N_{\min}}{N} \right)$ (4)

COMPLEX SYSTEM

$G = b_1N + b_2N^{1+\alpha} - b_3$	$A = b_1N + b_2N^{1+\alpha} - b_3$ (5)
where ' α ' is the degree of complexity of the system which varies between 0 and 1	
output-size function	
$U = f(N, G)$	$S = c_1N - \frac{1}{c_2N^{1+\alpha}} + c_3$ (6)
$= f(N, N^{1+\alpha})$	
efficiency $\frac{U}{N} = f(N, N^{1+\alpha})/N$	$S = c_1 - \frac{1}{c_2N^{1+\alpha}} + \frac{c_3}{N}$ (7)
	where ' α ' is the degree of complexity of the system

INPUT-SIZE-OUTPUT FUNCTIONS OF SIMPLE SYSTEMS

DATA BASED ON RECORDS FOR ALL SHOPS OF A RETAIL CHAIN, 1952 ($n=404$)

FIGURE 1 RELATION BETWEEN SALES TURNOVER (OUTPUT) AND WAGES (INPUT)

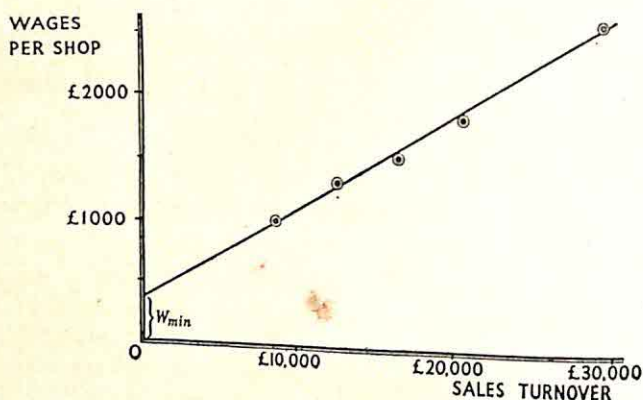


FIGURE 2 RELATION BETWEEN SALES TURNOVER AND SIZE OF SHOP

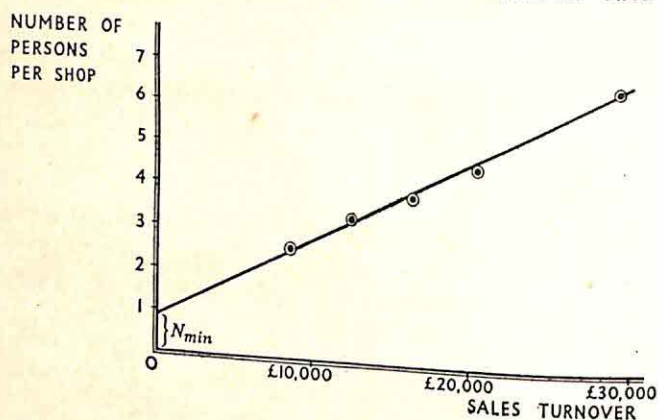
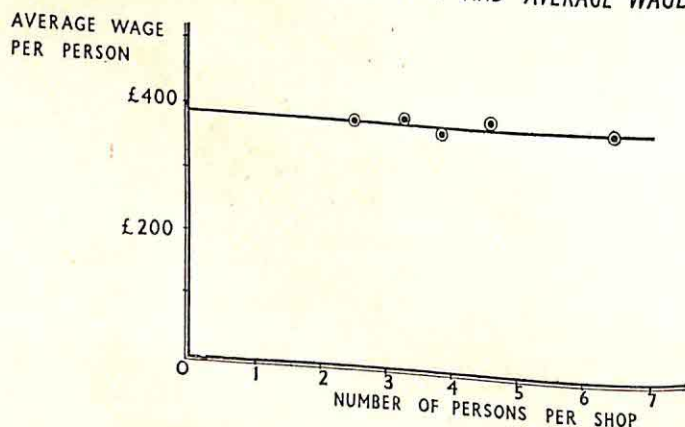


FIGURE 3 RELATION BETWEEN SIZE OF SHOP AND AVERAGE WAGE OF SHOP MEMBERS*



Size of the Integrating Unit

As an organization increases in size, a critical point is reached where an administrative unit is set up, that is, one or more persons who are concerned exclusively with the control and coordination of activities of their subordinates and whose contribution to output thus becomes indirect. An analogous problem in biology might be the conditions under which an organism develops a recognizable brain structure.

Let us suppose that the components of a system are independent of one another or very nearly so, then the amount of work required for control would be proportional to the number of components (n) of the system, so that the

$$\text{amount of control work} = b_1 n$$

If the component parts are interconnected, then the amount of work required additionally for the coordination of components may be taken to be a function of the number of interconnections between components. The maximum number

of interdependence links between n components is $\frac{n(n-1)}{2}$ so that in the simplest case

$$\text{maximum coordination work} \approx b_2 n^2$$

If we compare the amount of work in the form of control and integration in the case where there is complete independence between component parts with that where there is a complete linkage between components, we find that this is a function of n (the number of components) in one case and of n^2 in the other. The size of the integrating unit may then be taken to be a function of the size of the system raised to the power $1+\alpha$, where α may be taken as a measure of the degree of complexity of the system in terms of the degree of connectedness between its components.

In so far as the integrating unit is concerned with both control and coordination, its size should be related to the size of the system by a function of the form shown in *Equ. 6* (p. 339). If α is zero, then the relationship becomes linear, which would indicate that the system consists either of productive components that are functionally undifferentiated or of a set of independent simple systems with a common control unit. If α is unity, this would imply that it consists of components that are functionally differentiated, each having an interdependence link with every other.

The equation discussed shows that apart from the size of the organization there are three factors that determine the proportion of personnel in management and administrative roles. These are the complexity of the organization, the extent or rate at which the organization reacts to a given degree of complexity of its operations by installing extrinsic control and coordination, and the critical point with respect to size at which intrinsic regulation breaks down and transition to a complex system occurs.

Some relevant data are reported by F. W. Terrien and D. L. Mills (7) in a study of the size of the administrative component in elementary and high school districts. The administrative staff is taken to include the superintendent, his assistants, and intermediate staff, principals, business managers, and the like. Students were excluded.

For elementary schools the relationship between the size of the administrative component and the size of the organization is a linear one, which would indicate

a low level of functional differentiation. In the case of high school districts, the size of the administrative component rises at an increasing rate, from which it may be concluded that organizations of this type are functionally differentiated with some degree of interdependence between sub-units.³ The report further shows that in school districts that consist of less than 10 persons, no separate administrative component had been differentiated out. Four hundred and sixty-eight out of 732 elementary school districts were of this type. However, only 4 out of 250 high school districts of this type were found, showing that the greater the complexity of the organization, the earlier the critical size at which intrinsic regulation breaks down.

In a survey study of industrial firms, A. W. Baker and R. C. Davies (2) present a large variety of data on the relation between various types of indirect and direct workers. Some of the data could be fitted to a linear function. Non-linear relationships were fitted to a parabolic function. In spite of the fact that they were not able to separate out different types of industries, reported correlations obtained with the curve of best fit range from .83 to .99, supporting the assumption that the size relationships between different component parts of an organization have lawful characteristics.

A finding of some interest is that the number of top-management executives rises at a decreasing rate rather than the increasing of constant rate found for other functions, showing that beyond a certain point the type of work in which top management is engaged is not materially affected by increasing size of the organization.

If we turn to the type of processes found in biological development, we find not only similar stages of development but also similar types of relationship in the size of functionally differentiated parts of the organism, the so-called allometric relationships, suggesting that we are dealing here with very general system characteristics (3).

Characteristics of Complex Systems

If the system contains only a control unit, then its presence may not be easily detectable by input-output measurement by itself, in so far as the size of the control unit varies at a linear rate with the size of the system. If, on the other hand, the system contains an integrating unit concerned with the coordination of on-going processes, then this should be detectable by means of any one of the input-size-output functions.

If an integrating unit is differentiated out this implies that some components are withdrawn from output-producing functions, so that there should be a relative decrease in output obtained. If the creation of an integrating unit should lead to reduced efficiency, then large complex systems would not come into being, so that the loss of output resulting from the withdrawal of components from productive functions must be at least compensated for by an increase in output capacity of components that are retained in output-producing functions.

Fig. 4 shows the data obtained for the relationship between the size of retail establishments and output measured in terms of sales turnover for all retail establishments in Great Britain (9). It will be seen that with increased size, up to about 5 persons, retail establishments retain the characteristics of simple systems.

3. I am indebted to Dr. Terrien for additional data from their study.

SIZE-OUTPUT FUNCTION OF COMPLEX SYSTEMS

DATA BASED ON 1950 CENSUS OF RETAIL ESTABLISHMENTS

FIGURE 4

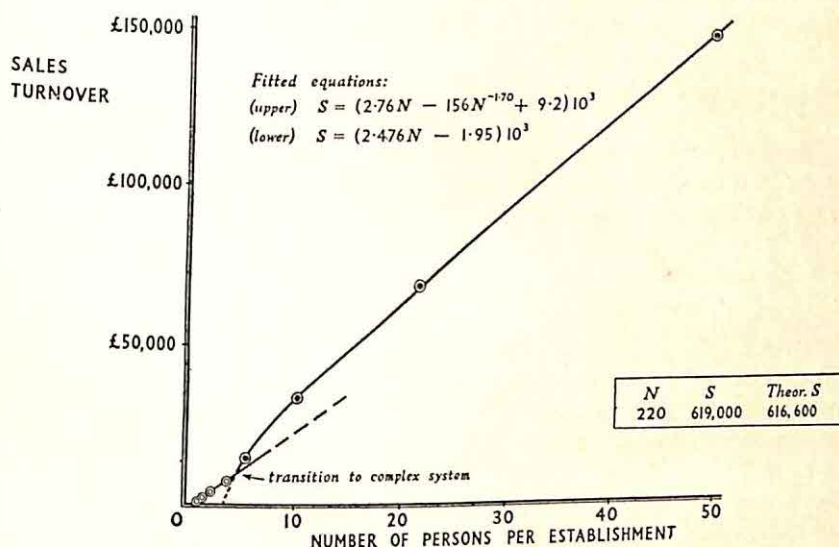
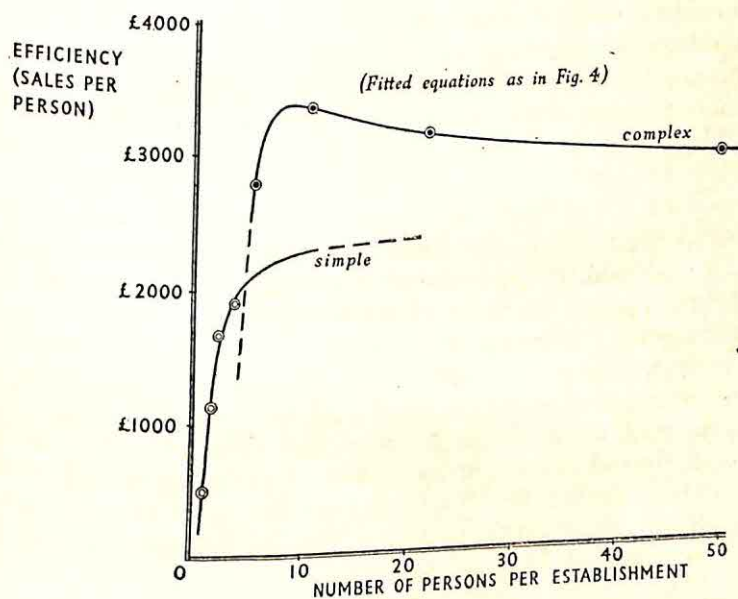
RELATION BETWEEN SALES TURNOVER (S)
AND SIZE OF ESTABLISHMENT (N)

FIGURE 5

COMPARATIVE EFFICIENCY OF SIMPLE AND
COMPLEX ORGANIZATIONS

At this point there is a definite break in the curve and a transition is found to occur to the formation of complex systems.

A good fit to the data is obtained by the function shown in *Equ. 7* (p. 339), which states that the presence of an administrative unit concerned with the co-ordination of on-going activities increases the rate at which sales turnover increases with size of the organization, and that the loss incurred by withdrawing personnel from production tasks decreases as the organization becomes larger. From this relationship between size of the organization and sales turnover achieved, a value of $\cdot 70$ is obtained from the data for the degree of complexity of independent retail establishments. The corresponding data for retail chains show complete linearity for the whole range, showing that these consist of simple systems that function independently of one another but are linked to a common control unit.

The efficiency of a system may be measured by the ratio of output relative to its size. In the case of retail establishments, the efficiency measure becomes the amount of sales turnover achieved, divided by the number of persons in the organization. *Fig. 5* shows the relative efficiency of simple and complex systems for the same data, fitted to *Equs. 4* and *7* respectively.

It will be seen that in shops with up to 5 persons intrinsic regulation is the more efficient form, and in practice the only possible one, since, as the data show, the group has to achieve at least this size before it can support an administrative apparatus. It is found, in fact, that in shops around this size the manager acts as a working leader and participates with his employees in the work that is carried out. As the shop becomes larger, the manager withdraws from production tasks and becomes more exclusively occupied with supervision and administration. At this point the transition to a complex system is found to lead to a considerable increase in efficiency and reaches a peak when the shop consists of around 8-9 persons. From there on efficiency begins to decline but ultimately reaches a constant value.

It is of interest to note that while in the case of independent shops an administrative staff is differentiated out when the size of the shop is around 5 or more persons, shops that form part of the retail chain maintain the characteristics of a simple system with up to about 9 persons in the shop. This suggests that the size of a working group can be increased without the need for developing a separate supervisory and administrative unit, provided that service activities and the supply of some technical inputs are taken over by the larger organization within which the shop operates. This would be supported by the discovery, in the course of a study at present being carried out of socio-technical organization in the coalmining industry, of a working group consisting of 48 men working with practically no external supervision, and possessing no internal directive leadership roles whatsoever. In this case, both the supply of service activities for the group and the distribution of coal output obtained are taken over by the larger organization of which this group forms a part.

SUMMARY

The possibility is explored of constructing a method to measure the level of organization of behaviour systems by the analysis of the relationship found

between their input, size, and output. The diagnostic technique at the present stage may be summarized as follows. Assuming that the unit study does not contain input-consuming components that make no direct or indirect contribution to output:

1. If both size of unit and input have a minimum boundary value when output approaches zero, then the unit studied has the characteristics of a system rather than that of an assembly.

2. If a minimum boundary value with respect to size exists and the relationship is linear, then the unit has the characteristics of a simple system. It may consist of components that are functionally undifferentiated or of a set of independent simple systems that are linked to a common control unit.

3. If the relationship diverges from linearity, then the unit has the characteristics of a complex system in which component units are functionally differentiated and have some degree of interdependence with one another.

In the latter case we may go one step further and use the divergence from linearity to obtain a measure of the complexity of the system in terms of the degree of interdependence of its component units. The method is illustrated by data on group functioning which provide the opportunity of checking findings obtained by direct measurement. Finally, some of the conditions are discussed under which a group can maintain self-regulation.

The present method cannot be regarded as more than a first approach to a problem that is likely to become of increasing importance in behaviour studies. Among the major problems on which further research is needed is the extent to which different structures may give similar input-size-output functions. Eventually it should be possible to develop more sensitive sequential testing methods by which the range of possible structures is gradually narrowed down until correct identification has been made.

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BIOGRAPHICAL NOTE

A note on the author of this paper appeared in *Human Relations*, Vol. V, No. 1.

Effects of Facilitative Role Interdependence on Group Functioning¹

EDWIN J. THOMAS

THE behavior of a group is strongly affected by the degree of interdependence existing among its members. Groups high in interdependence commonly function effectively and offer mutual benefit to members. For example, when interdependence is high rather than low, members seem to be more attracted to the group, to strive harder to achieve their goals, and to be more responsible to their fellows. Some effects of member interdependence are examined in this study.

In a number of small groups, members were made interdependent by dividing the labor among them while they performed a task. Members in other groups were linked together in interdependence by a common team goal. The conditions were contrasted with others in which members did not divide the labor, and did not work toward a team goal. How these different degrees of interdependence influence the cohesiveness and productivity of groups, the tensions and feelings of responsibility of members, is the problem at hand.

Work in the past has dealt with limited aspects of this problem. Some theorists, such as Durkheim (6) and Spencer (15), stressed the division of labor among persons as a basis of interdependence. More recent thinking of production engineers and others (1, 2, 12, 16) has indicated specific ways by which the simplification or standardization of work operations may result in high mutual dependence among workers. Ecologists have noted that the organization of groups seems to depend upon the available resources and how persons and groups use the resources (9, 13). Some writers have speculated about the effects of interdependence. They have noted the degree and kinds of group solidarity (6, 15), the degree of conflict (4, 13), the amount of productivity (6), and the kinds of norms evolved to regulate behavior (18).

Particularly pertinent to the focus of this study are two empirical investigations that suggest the importance of distinguishing between interdependence that is hindering, facilitating for group members as opposed to interdependence that is hindering. Deutsch (5) conceived of the cooperative social situation as one in which members were 'promotively interdependent'. Upon comparing this kind of situation with a competitive one in which members were viewed as 'contritely interdependent',

1. This investigation was supported by research grant M-701 (C) from the National Institute for Mental Health of the National Institutes of Health, Public Health Service. Alvin Zander is principal investigator; Edwin Thomas was a research associate at the time this study was conducted. The research reported here was part of the research done in connection with the author's Ph.D. dissertation at the University of Michigan. As chairman of the doctoral committee, Professor Zander offered valuable assistance throughout the study. The advice of Professors J. R. P. French and Dorwin Cartwright is also gratefully acknowledged.

group members were found to be highly motivated, friendly, and productive. In contrast to these effects of the promotive situation are ones described in a case study by Trist and Bamforth (17). In a coal mine, where workers were highly interdependent in performing tasks, there occurred frequent difficulties and hindrances in the orderly flow of work. As a result miners became hostile and suspicious, oftentimes refusing to cooperate or to work.

Clearly in Deutsch's cooperative groups there was greater facilitation among group members than there was in his competitive groups, or among the coal miners who experienced hindrances in the flow of work. What appears to account for the effects in these different groups is the degree of facilitation among the members in interdependence. While it is correct that group members in the study by Trist and Bamforth were interdependent in the division of labor, whereas this was not the case in Deutsch's study, this difference does not appear to be the cause of the contrasting effects observed. Individuals may help or hinder one another when there is a division of labor or when there is no division of labor; when there is a group goal or when there is no group goal. Thus the *degree of facilitation* is a dimension that may be a factor common both to interdependence based upon a division of labor and to interdependence based upon the goals pursued by members of the group. This study, then, is an experimental examination of the effects of degrees of facilitative interdependence upon the functioning of group members.

THEORY

Definitions and Assumptions

We first describe the concept of facilitation when this occurs in the division of labor among persons and in the interdependence among them while working toward a goal.

In a division of labor, interdependence exists to the extent that the task performance of each person serves as a means for the performance of tasks by others. Facilitation occurs to the degree that each person, when performing his task, allows others to perform their task; when persons perform their tasks successfully, paths are opened for the movement of others towards completion of their tasks.² Facilitation as observed in a division of labor has therefore been termed *means-controlling facilitation*, since each person provides the means for the movement of all others in their task performance.

Let us suppose, for example, that two persons share the work on an anti-aircraft crew. The first person hands the shells to the second, and the second loads the shells into the weapon. When the first passes the shell, he provides the means for the second person to load it into the weapon. The first in other words provides a path for the movement of the second person; means-controlling facilitation, then, exists for the second person.

The basis of facilitation is somewhat different in the case of a common team goal. The efforts of each person with a goal common to all other members help the others toward attaining the communal end. That is, the efforts of each person substitute for the efforts of another person in providing movement of everyone toward the joint goal. We refer to *goal facilitation*, then, when the movement of

2. Movement refers to actual locomotion in a social situation and is to be distinguished from locomotion in an individual's life space.

one person toward a group goal provides movement for all others toward this same goal.

Suppose, for example, that two persons have the mutual goal of sorting the good apples out of a bushel of apples of varying quality. The more good apples sorted by one person, the more the other is actually moved toward the mutual goal of having sorted out all of the good apples. Each worker, to the degree that he sorts out good apples, facilitates the work of the other by moving him toward the goal.

More formally *facilitation* is a condition between at least two persons in which one person either makes available to the other paths for objective locomotion (means-controlling facilitation) or one person provides objective locomotion for the other toward a goal (goal facilitation), or both of these conditions. The *degree* of facilitation under conditions of means-control depends upon the proportion of acts performed by one person that allow another's locomotion, to all those acts performed by the first person relative to the second. In goal facilitation, the *degree* to which one person facilitates the work of all others, if all have about equal ability, is one divided by the total number of persons in relationships of goal facilitation to one another.

With these concepts in mind some aspects of interdependence itself may be considered. This theory is restricted to interdependence of persons performing roles in direct relationship with one another and thus, in its present form, has limited generality to broad ecological, political, and economic situations. *Role* is viewed here as the behavior of a person that is regarded by relevant others as appropriate to the position he occupies. *Role interdependence* may then be conceived as mutual dependence of persons in the performance of their respective roles. For role interdependence to be facilitative, the dependence of each individual upon the other must be facilitative, as this concept was defined earlier. Excluded from consideration here are relationships of *hindering interdependence*.³ In short, the theory is restricted to conditions of *symmetrical* facilitation, by which is meant that all persons facilitate one another to approximately equal degrees, and do not also hinder one another.⁴

With all of these restrictions and qualifications it is convenient to adopt symbols to simplify expression. The essential concept in the theory is the degree of mutual facilitation. The degree of *mutual facilitation* then will be referred to hereafter instead of the more correct but cumbersome expression of 'the degree of facilitative, symmetrical role interdependence'. Whenever the abbreviated expression is used it is understood that the additional limiting terms also apply.

We may now turn to the assumptions of the study. Basic to our discussion of interdependence has been the supposition that facilitation produces entirely different effects upon persons than does hindrance. By definition facilitation is a condition that allows or actually helps group members to move toward successful role performance or goal attainment. Under these conditions we would therefore expect that restraints to locomotion of group members would be minimized. The first assumption states this supposition.

3. *Hindrance*, not dealt with in this study, is distinguished from facilitation as follows: *role dependence is hindering for B if A erects restraints to the locomotion of B*. By role 'performance' in the definition of role dependence is meant the behavior of A in connection with carrying out his role.

4. This is to be contrasted with what may be called *asymmetrical* role interdependence, which would exist if A's role performance only facilitated B's and B's only hindered A's.

Assumption 1. Persons in relations of facilitative role interdependence with one another perform their roles so that the magnitude of forces restraining the locomotion of others is minimized.⁵

When persons facilitate the work of others there evolve expectations about how the others are to behave. More specifically, if a person facilitates another's role performance the other expects the first person to continue to be facilitative of his efforts, and not to hinder him. Because of these expectations, there arise forces upon persons to be responsible to others in order that the others experience minimal hindrance. These pressures to facilitate the work of others are called *responsibility forces*. More precisely, responsibility forces are those forces upon persons growing out of expectations specifying that they perform their roles so that the role performance of others is maximally facilitated and minimally hindered. The second assumption then is as follows:

Assumption 2. The less the magnitude of forces restraining the locomotion of persons when in interdependence, the greater the strength of responsibility forces upon these persons.

Let us illustrate briefly what this assumption means. Suppose two persons have a common goal toward which they have been working. Each facilitates the work of the other by doing as much as he can toward the common end. Since the restraints are minimal, each person develops expectations that the others will be maximally facilitative and minimally hindering. Thus each person exerts strong responsibility forces upon the other under these conditions. The forces exerted may take different forms, such as norms regarding the importance of enhancing mutual benefit or agreements to cooperate, and so on.

Hypotheses

The hypotheses tested in this study are formulated below. The first one follows directly from the assumptions.

Hypothesis 1. The greater the facilitation among persons in interdependent roles, the stronger the responsibility forces upon these persons.

The second hypothesis concerns the influence of mutual facilitation upon the speed of locomotion toward the goal. Production, which is a concrete indication of locomotion, should increase with greater mutual facilitation. There are two reasons for this: (a) the magnitude of forces restraining locomotion are less with increasing facilitation (Assumption 1), and (b) the stronger responsibility felt by persons as a result of increasing facilitation influences them to maximize the speed of locomotion of others (Hypothesis 1). Thus we may state the second hypothesis as follows:

Hypothesis 2. The greater the facilitation among persons in interdependent roles, the greater the speed of locomotion toward the goal for these persons.

Eventually, if a person works rapidly enough, he approaches the limits of his abilities to increase the speed of work. Under conditions of mutual facilitation, we expect that there would be minimal hindrances to locomotion from interdependence,

5. A Lewinian orientation is followed in the usage of many of the concepts not defined previously. A force is specified by indicating a direction, a magnitude, a point of application, and a source (3, 10).

yet there would also be strong motivation to work hard in moving toward the goal (Hypotheses 1 and 2). Hence it would be reasonable to presume that with time a person would either approach or encounter the limits of his capacities. To the degree that this occurs, the person would be in a state of conflict. If he anticipates working less rapidly, he runs counter to responsibility forces upon him. But if he persists in working harder, he encounters the limits of his abilities.

The state of the person in a conflict between opposing forces we propose to term *emotional tension*. The degree of emotional tension for the person is a function of the magnitude of the weaker of two opposing forces exerted upon the person, when the weaker is greater than a certain magnitude.⁶ Although it is difficult to attach very definite intuitive meanings to the concept of emotional tension, it may be identified by two characteristics: 1. Its source resides primarily in the opposition of forces exerted upon the person. 2. The person's reaction to these conditions is not likely to be goal-directed activity, but rather more expressive behavior such as restlessness, a desire to leave the field, aggressive feelings toward himself and others, and so on.

The relationship between mutual facilitation and emotional tension, then, is proposed in the third hypothesis.

Hypothesis 3. The greater the facilitation among persons in interdependent roles, the greater the emotional tension arising from restraining forces generated by approaching the limits of ability and by fatigue created by the speed of locomotion.

From Hypothesis 3 it is clear that the limits of ability would be reached more rapidly under high mutual facilitation than under low mutual facilitation. Through time therefore the increase in emotional tension would be more rapid when mutual facilitation is high rather than low. A corollary to Hypothesis 3 is as follows:

Corollary to Hypothesis 3. The greater the facilitation among persons in interdependent roles, the greater the increment of emotional tension through time for these persons.

The final effect of mutual facilitation concerns group cohesiveness. The cohesiveness of a group is defined as the resultant of all forces exerted upon members with direction toward the group (13). Many forces undoubtedly affect the member's desire to remain a member of the group. Particularly relevant are those forces which increase the speed of movement for the member toward his own or the group's goals. Since it is proposed that the speed of locomotion is greater with increasing facilitation, we would by the above reasoning expect greater group cohesiveness with increasing mutual facilitation. The last hypothesis is therefore as follows:

Hypothesis 4. The greater the facilitation among persons in interdependent roles, the greater their cohesiveness as a group.

These hypotheses state the effects upon group functioning which are of interest here. In summary, it has been hypothesized that increasing mutual facilitation will increase for group members the responsibility forces upon them, their speed of locomotion toward the goal, their emotional tension, and the cohesiveness of the group.

6. This definition of emotional tension is similar to French's formulation of frustration (8).

METHOD

In the experiment, five female subjects sat around a circular table. For thirty minutes the subjects worked on the task of building miniature houses of cardboard. This task was described to them as a test of 'General Work Intelligence' in order to maximize motivation to work hard. Speed of work was stressed as the way to get a high score.

Subjects, Setting, and Apparatus

One hundred and sixty volunteer females participated in the experiment. They were a highly homogeneous group in that all were in similar jobs in a large private utility and shared the same social status and conditions of work in the company. The median age was twenty-two. There was wide variation, however, of age, race, and ethnic origin.

At appointed times the participants met in a large room of the company. Each sat evenly spaced from the next around the large circular table. Before each participant were placed her work materials, such as posterboard, scissors, brushes and paint, and sheets of work directions. Beneath the table were buttons wired to a kymograph and a light board. Relevant data were registered on these instruments when a subject pushed her button at appointed times with her right foot. Button-pushing was used to indicate a desire for a relief from work (a measure of emotional tension). Since the equipment was soundless, no one knew how the others used their buttons.

Procedure

Persons were selected for the experiment so that the following conditions were met: each member of each group came from a different work location, and there was one person in each group whose age was thirty-six or older (in order to equalize the influence of maturity through all experimental groups).

At the beginning the participants were told that the purpose of the study was to increase understanding of the effects of work relations upon persons. The task was described as one in which the psychological requirements were similar to the requirements of jobs that the persons performed every day. Subjects were told that the construction of the miniature house was a test of 'General Work Intelligence'. This was said in order to make the task meaningful and to maximize motivation to work hard.

During a brief 'training' period participants were instructed in how to perform each of the five steps in building the miniature houses. All known ways of maximizing speed and skill were given to the subjects. All were urged, in addition, to refer to the written instructions if necessary. Training ended after each person had completed the first two steps required to build a house.

After this orientation, the 'performance' period was introduced. No one was allowed to converse during the experiment. Just before beginning the subjects were told that their score for 'General Work Intelligence' depended upon how rapidly they worked. Also, a system of voting for a temporary relief from work was described. At appointed times, persons were told that they could vote by pushing buttons if they wanted a free rest period. A certain number of votes had to come from all members, it was said, before a relief would be allowed. Brief training was given in the use of the foot buttons so that persons could vote without losing time from their work.

The performance period lasted thirty minutes. After ten, twenty, and twenty-five minutes of work, voting periods were called. At each time, the experimenter recorded the number of votes and amount of production for each person. Only after the last vote were participants told that there had been enough votes for a relief. They were then given three minutes of rest, after which they returned to work for five minutes. Following the work session, a questionnaire was completed and a general explanation of the study was given. In no instance were the inductions actually revealed to participants.⁷ The entire experiment lasted one hour and forty-five minutes.

Experimental Design and Manipulation of the Variables

Variations of mutual facilitation were obtained by creating high and low facilitation concerning goals (abbreviated HI-GO and LO-GO) and high and low facilitation in means-control (abbreviated HI-MC and LO-MC). The total design included another variable, ego strength, which will not be considered in this report. The total scheme, then, was a $2 \times 2 \times 2$ factorial design of which two treatments are relevant to the present theory. There were forty subjects in each of the four conditions of interest here.

Facilitation in means-control was introduced by the way in which the tasks were assigned to participants. The five steps of the task, in order of performance priority, were 1. tracing the pattern of the house, 2. cutting out the pattern of the house, 3. scoring selected folding parts with a surgeon's knife, 4. gluing the house together, and 5. painting the house. In the condition of low means-control all five of these steps were assigned to each person. As seen in *Figure 1* each person performed all steps in making houses, as if they were 'craftsmen'. Since each person was independent of the next in doing his work, there existed no means-control.

In the condition of high facilitation in means-control, two of the five steps of the task were assigned to each person, as in a 'double assembly line'. The task assignments are illustrated in *Figure 2*. It is clear that contiguous persons were mutually dependent in that each had means-control over the performance of the task of the other. That is, persons A and B were interdependent in means-control, as were persons B and C, C and D, and D and E. For each of these pairs of persons, then, there was means-controlling interdependence. The facilitation resided in the ease of performing the tasks. Since each step of the task was very simple to do and the materials of work were kept in good working condition, there was little likelihood that any person would hold up the work of others.

Goal facilitation was varied by instructions to participants concerning how the score on 'General Work Intelligence' was computed. All persons were told that the score depended upon the speed in doing steps of the task. But in the condition of low goal facilitation persons were told that they would be scored individually on the basis of the average time required to complete steps of the task from the time steps were begun until they were finished. It was stressed that any person's score was independent of the score of others, since speed of work for each person on a step of the task was independent of the speed of any of the others. Hence, no

7. Every effort was made to be sure that no negative impressions of the research were developed while conducting the experiment in the company. Evidence available to the author indicates that these efforts were successful in that no incorrect intentions or misleading stereotypes were attributed by operators to the researcher or to the research project.

FIGURE 1 *ASSIGNMENT OF STEPS OF THE TASK IN THE CONDITION OF LOW MEANS-CONTROLLING INTERDEPENDENCE*

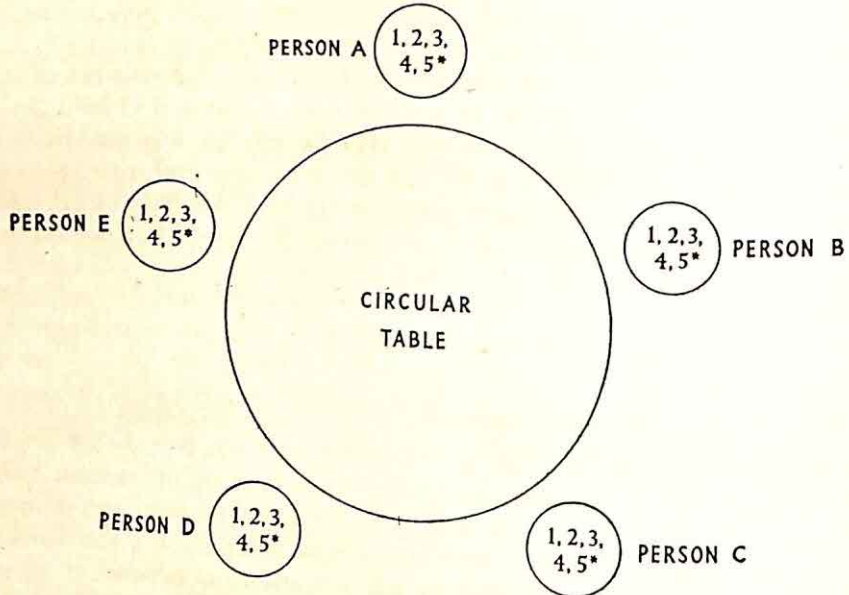
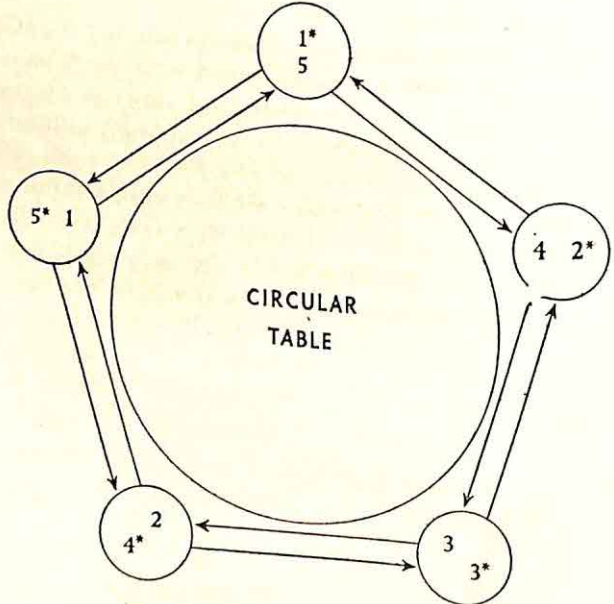


FIGURE 2 *HIGH MEANS-CONTROLLING INTERDEPENDENCE*



*STEPS OF THE TASK

→ signifies MEANS-CONTROL DEPENDENCE

one person's efforts could either facilitate or hinder the efforts of others to attain the goal. In the condition of high goal facilitation, however, they were told that they would be scored as a group on the basis of the average of individual scores in the group. It was stressed that the speed of each had a proportional effect upon the score assigned to the group as a whole. The movement of each person toward the goal, then, depended upon the speed of work of all others.

The combinations of these four conditions provide us with degrees of mutual facilitation. The order from lowest to highest is as follows: LO-MC, LO-GO; LO-MC, HI-GO; HI-MC, LO-GO; HI-MC, HI-GO. HI-MC was ranked as being more facilitative than HI-GO because the task was so readily performed that a very high proportion of all acts facilitated others in HI-MC, whereas in HI-GO any one person hypothetically could facilitate others only by one-fifth, since there were five members in each group.

RESULTS

Comparability of Experimental Conditions

With regard to age, previous familiarity, and race it was found that there was sufficient uniformity for none of these factors to account for the results. Subjects uniformly reported high liking for the experimenter and indicated high motivation to work on the task. Also, there were no unique interaction patterns among members of experimental groups that caused variation on dependent variables to be excessively low within experimental groups.⁸ Groups in experimental conditions, then, were not sufficiently different regarding these extraneous factors to preclude systematic comparison of conditions.

Success of the Experimental Manipulations

One indication of the success of the inductions is whether the subjects perceived the conditions as the experimenter intended them to be perceived. Using this criterion, it was necessary first to be sure that hindering interdependence had not been unwittingly created. *Table 1* discloses that the amount of hindrance perceived by the subjects did not vary by conditions (F : ns). Moreover, all persons perceived very little hindrance, if any (point 2 on the scale falls between the points 'hindered a little bit' and 'not hindered at all'). Having thus ruled out the occurrence of perceived hindrance, we may consider whether the subjects perceived facilitation to be greater when it was intended to have it so. It will be seen in *Table 1* that, in general, the amount of facilitation perceived by the participants increased with degrees of facilitation as created experimentally ($F=7.26, p<.01$). The difference between HI-MC and LO-MC is highly significant ($F=40.96, p<.001$) but the effects of goal facilitation alone were not significant. Increasing the degrees of facilitation of means-control among persons caused an increase in the amount of perceived facilitation, but increasing the degrees of goal facilitation among them did not.

It may not be concluded, however, that the variations of goal facilitation did not affect the nature of the subjects' goals. When asked for whom they had worked

8. Since the independence of responses of subjects was established for all but one of the dependent variables, persons rather than experimental groups were used as the n for statistical tests except in this one case.

TABLE 1
PERCEIVED HINDRANCE AND FACILITATION, BY
EXPERIMENTAL CONDITION

Experimental Conditions	Mean Perceived Hindrance (Larger Mean, More Hindrance)	Mean Perceived Facilitation (Larger Mean, More Facilitation)
HI-MC, HI-GO	1.73	4.25
HI-MC, LO-GO	2.05	4.23
LO-MC, HI-GO	2.25	3.33
LO-MC, LO-GO	1.58	3.56
	$F=1.59, p: ns$	$F=7.26, p<.01$

hardest in trying to get a high score, 90 per cent of those in the conditions of high goal facilitation said that they worked hardest for the group, whereas, in the conditions of low goal facilitation, 73 per cent said that they worked hardest for themselves ($p<.001$ by t -test).

We may conclude, then, that the experimental manipulations were present as intended.

Responsibility Forces

Hypothesis 1 states that the greater the facilitation among persons in interdependent roles, the stronger the responsibility forces upon these persons. Indications of forces on persons to be responsible were secured by asking how disturbed the subject (or others) would be if she (or others) were to perform her role so as to fail to facilitate others. An example of one of the five questions is: 'If I worked too slowly, the others would have felt . . .' Responses to the five questions were combined into an index of responsibility forces for each subject.⁹ Table 2 shows that the means on the index increase with increasing mutual facilitation. The analysis of variance is summarized in Table 3, where it is seen that the overall F -value is significant ($p<.001$), and the main effects for means-control and goal facilitation are significant ($p<.001$ and $p<.03$ respectively). These findings strongly support Hypothesis 1.

TABLE 2
INDEX OF RESPONSIBILITY FORCES BY
EXPERIMENTAL CONDITION*
(LARGER MEAN, MORE RESPONSIBILITY)

Degrees of Facilitation in Role Interdependence		Mean of Index of Responsibility Forces
Means-Control	Goal	
High	High	13.79
High	Low	12.79
Low	High	10.61
Low	Low	8.26

* N of persons: 152

9. Responses to the five questions were combined because: (a) the responses to all of the items were highly intercorrelated (r s from $+0.24$ to $+0.69$), and (b) the means for each item increased with increasing degrees of facilitation.

TABLE 3 SUMMARY OF PARTITIONING OF VARIANCE FOR INDEX OF RESPONSIBILITY FORCES

<i>Source of Variation</i>	<i>Sum of Squares</i>	<i>df</i>	<i>F</i>	<i>P</i>
<i>Means-Control</i>	553.28	1	40.83	< .001
<i>Goal</i>	106.11	1	7.83	< .03
<i>Ego Strength*</i>	5.33	1		ns
<i>Means-Control × Goal</i>	17.11	1		ns
<i>Means-Control × Ego Strength</i>	.05	1		ns
<i>Goal × Ego Strength</i>	35.05	1	2.58	ns
<i>Second-Order Interaction</i>	14.61	1		ns
<i>Total between Means</i>	731.80	7	7.71	< .001
<i>Within Groups</i>	1,951.30	144		
<i>Total Variance</i>	2,683.10	151		

Cochran's Test: .176 p : ns

* Ego strength, though varied in this study, is not reported here. Subsequent reports will consider its effect upon member behavior in groups.

The second source of data bearing upon this hypothesis concerns the subjects' willingness to be helpful to others. Persons were asked how willing they were to be of help to one of the others in the group if that person had had difficulties with his work, and how much they thought they would have lost by helping someone else. Responses to these questions were combined into an index of willingness to be helpful ($r = .41$ between responses on the two scales). Table 4 reveals that the subjects' willingness to be helpful increases with increasing mutual facilitation. Although the overall F -test is significant ($p < .05$), there is heterogeneity of variance ($p < .01$ by Cochran's Test). It is improbable, however, that the heterogeneity would explain entirely the differences among means. Using a modified t -test suggested by Edwards (7), the difference between the low and high means (7.38 vs. 8.68) is highly significant ($t = 3.27$, $p < .001$).

Hypothesis 1, then, concerning responsibility forces has been strongly supported.

TABLE 4 WILLINGNESS TO BE HELPFUL, BY EXPERIMENTAL CONDITION*
(LARGER MEAN, MORE WILLINGNESS)

<i>Degrees of Facilitation in Role Interdependence</i>		<i>Means of Willingness to be Helpful</i>
<i>Means-Control</i>	<i>Goal</i>	
High	High	8.68
High	Low	8.58
Low	High	7.93
Low	Low	7.38

* N of persons: 160

Speed of Locomotion

Hypothesis 2 states that the greater the facilitation among persons in interdependent roles, the greater the speed of locomotion toward the goal for these persons. The mean number of units produced was used as an indication of the speed of locomotion toward the goal. In the first column of *Table 5* it may be seen that the means on production increase with increasing mutual facilitation. The overall *F*-value is 3.59 ($p < .04$), and the main effects for means-control provide an *F*-value of 7.56 ($p < .01$). Though the main effects for goal facilitation are not significant, it is clear from the means in *Table 5* that the effects of high goal facilitation alone increase production considerably over the production in the condition of low goal and low means-control facilitation (68.75 vs. 54.88). The difference between these means is highly significant ($t = 6.21$, $p < .001$). These findings provide strong support for Hypothesis 2.

TABLE 5
AMOUNT OF PRODUCTION AND SCORES OF
RESULTANT FORCE TOWARD THE GOAL,
BY EXPERIMENTAL CONDITION*

Degrees of Facilitation in Role Interdependence		Mean Production Units per Group (Larger Mean, More Production)	Mean Scores of Resultant Force (Larger Mean, Large Resultant)
Means-Control	Goal		
High	High	77.00	18.67
High	Low	76.63	18.46
Low	High	68.75	17.58
Low	Low	54.88	15.89

* *N* of groups for production: 32. *N* of persons for resultant force: 158.

One might argue, however, that the high productivity in the conditions of high means-control was due in part to possible specialization in task performance, and was not due to stronger forces on persons to move more rapidly toward the goal. There are three sources of evidence in support of the contention that motivational factors were responsible for much of the variation of productivity among all conditions. The first concerns findings from an index called the 'resultant force'. The index of resultant force was constructed from responses to questions concerning pressures perceived by subjects about how hard they should work (symbolized *a*), the perceived ease of keeping up with others (symbolized *b*), and the responses included in the index of responsibility forces (*c*). Components *a* and *c* were regarded as driving forces, and *b* as an indication of potential restraining forces. The score for a person was based upon the following formula:

$$\text{Index of Resultant Force: } a + \frac{c}{2} - b$$

Table 5 reveals the scores on the index of resultant force. As expected theoretically, the resultant force with direction toward the goal increases with increasing mutual facilitation (*F* for these means is 5.27, $p < .001$).

The second source of evidence is that responsibility forces alone correlated highly with productivity, using group averages on both of these variables ($r = +.51$, $p < .01$). And lastly, the scores on resultant force toward the goal were highly

correlated with productivity, using group averages on both variables ($r=+.65$, $p<.01$).¹⁰ These findings strongly support the contention that high productivity was generated by mutual facilitation. If specialization of task played a role in affecting productivity in the conditions of high means-control, it is probable that this influence was minimal relative to the weight of the motivating forces generated by degrees of mutual facilitation.

Emotional Tension

Hypothesis 3 states that the greater the facilitation among persons in interdependent roles, the greater the emotional tension arising from restraining forces generated by approaching the limits of ability and by fatigue created by the speed of locomotion. The first indicator of emotional tension is the frequency of votes for a break from work made by those subjects who indicated that they voted because of tension.¹¹ Table 6 shows that the means are as predicted only for goal facilitation. The mean for high goal facilitation was 4.60 and for low goal facilitation, 3.19 ($t=2.39$, $p<.02$). Voting did not vary significantly by variations in means-control. These findings, then, only partially support the hypothesis.

TABLE 6 NUMBER OF VOTES FOR A BREAK,
BY EXPERIMENTAL CONDITION

<i>Degrees of Facilitation in Role</i>		<i>Mean Votes for Tension Reasons</i>	<i>N*</i>
<i>Means-Control</i>	<i>Goal</i>		
High	High	4.96	27
High	Low	2.95	24
Low	High	4.11	19
Low	Low	3.45	22

* The *N* is truncated because those voting for reasons other than tension have been excluded.

Additional indicators of emotional tension were obtained from responses to questionnaire items. In order to be more confident that these responses were indicators of emotional tension, and not need tension alone, responses were used of only those persons for whom there was some evidence of opposing forces upon them. In order to make operational the probable existence of opposing forces, those persons were used who experienced some hindering in the experiment.¹² Table 7 shows the means of responses to the four questions concerning emotional tension for these subjects. It is clear from the progression of the means that the greater the mutual facilitation, the greater the anger toward others ($F=8.66$, $p<.001$). The means progress as predicted for restlessness ($F=2.10$, $p=.12$) and feeling hemmed in ($F=1.69$, p : ns), though the p -values indicate greater probability of chance occurrence. The means for self-anger do not progress as predicted

10. Group scores had to be used because, in the conditions of high means-control, only group scores could be obtained on productivity.

11. Following the experiment, subjects were asked why they voted, if they did. Responses were coded for indications of tension and only those who indicated reasons of tension were used in this analysis. Inter-coder reliability was 95 per cent agreement.

12. As will be recalled, very little hindering occurred and hence this way of obtaining opposing forces is not entirely adequate, though it was the best available here.

(F : ns). Hence Hypothesis 3 is strongly supported in responses to one question, weakly supported in responses to two questions, and not supported in responses to another.

TABLE 7 VARIOUS INDICATORS OF EMOTIONAL TENSION
BY EXPERIMENTAL CONDITION*

Degrees of Facilitation in Role Interdependence		Anger Toward Others	Felt Rest- lessness	Feeling Hemmed In	Self- Anger
Means-Control	Goal				
High	High	3.00**	3.62	3.69	3.69
High	Low	2.45	3.60	3.40	2.95
Low	High	1.87	2.96	3.17	3.43
Low	Low	1.50	2.71	2.78	3.57

* Only Ss who experienced relatively high hindering; N is 80.

** For all means, the higher the number, the greater the emotional tension.

The corollary for Hypothesis 3 states that the increment of emotional tension through time will be greater the greater the facilitation among persons in interdependent roles. Table 8 shows the mean increment of votes through time. The increments increase as predicted, though it is clear that the conditions of high means-control contribute most to the increases. The difference between these conditions of high and low means-control is significant by a one-tailed t -test ($p < .05$). Though this evidence is not strong, it does support the corollary.

TABLE 8 INCREMENT OF EMOTIONAL TENSION (VOTING) AND
DECREMENT IN SPEED OF LOCOMOTION (PRODUCTION),
BY EXPERIMENTAL CONDITION*

Degrees of Facilitation in Role Interdependence		Mean Unit Decrease in Production (Minus signifies Decrease)	Mean Increment of Voting (Larger Mean, More Voting)
Means-Control	Goal		
High	High	-3.75	1.04
High	Low	-1.25	.83
Low	High	-1.75	.42
Low	Low	+1.63	.41

* Voting increment from time one to time three; difference between average production in conditions from time two to time three.

Additional findings bearing upon Hypothesis 3 concern the average decrease in production through time. If it is correct that as mutual facilitation increases, persons approach the limits of ability, then one would expect that the speed of movement would decrease to the degree that these limits are approached. Table 8 shows that in general there is a greater decrease in production through time with increasing mutual facilitation. From Hypothesis 3, we would predict emotional tension to increase to the degree that these limits are encountered. Table 8 clearly indicates that this is what happened: as the speed of movement (production)

decreased, the increment of emotional tension (voting) increased through time (Kendall's τ is $-.67$).¹³

Considering all of the findings as a whole, Hypothesis 3 has been supported. Most of the evidence indicates that the null hypothesis may be rejected.

Group Cohesiveness

Hypothesis 4 states that the greater the facilitation among persons in interdependent roles, the greater the cohesiveness of the group. Attraction to group was made operational by responses to three questions patterned after those used by Schachter (14) and Libo (11). Table 9 indicates that the progression of means for the total sample is not entirely as predicted, nor are the differences significantly different from chance ($F=1.56$). There was little variation of attraction to the group among conditions. Moreover, on the basis of data from Libo's (11) work, there was high attraction to the group in all conditions of this study.¹⁴ Since not all persons perceived the inductions exactly as intended, a separate analysis was undertaken in order to determine whether the predicted effects would occur for those subjects for whom the experimental inductions were most effective.¹⁵ The means on attraction to group for these subjects are shown in the last column of Table 9. Here the predicted trend of means occurs, though it is clear that only in the condition of LO-GO, LO-MC is the mean of attraction to group appreciably lower than the others (this mean is significantly different from the others by t -test at beyond the .03 point).

TABLE 9 ATTRACTION TO GROUP, BY
EXPERIMENTAL CONDITION*

<i>Degrees of Facilitation in Role Interdependence</i>		<i>Means of Attraction to Group</i>	
<i>Means-Control</i>	<i>Goal</i>	<i>Total Sample</i>	<i>Sub-Sample</i>
High	High	22.53	23.07
High	Low	21.70	23.00
Low	High	22.33	22.70
Low	Low	20.83	19.16

* N of persons in total sample: 160; N of persons in sub-sample: 46.

It will be recalled that it was assumed that forces which increase the speed of movement toward the goal are forces with direction toward the group. In short, groups with higher production, under these experimental conditions, should be more cohesive. This assumption is supported by the correlation of $+.69$ ($p < .01$) between production of the group and the average attraction to the group. This evidence indirectly supports Hypothesis 4.

13. It was not possible to compute this correlation for all individuals, since in only the conditions of low means-control were individual scores available on production. Because variations of both production and voting through time were very small in these conditions of relatively low facilitation, one would not expect the predicted relationship to occur here.

14. The mean value for high attraction to group in Libo's research was 21.5, and for low attraction, 16.2, using the same questionnaire items as used in this study.

15. Only around one-third of the subjects perceived the inductions as intended on all perceptual criteria combined.

These findings, then, support Hypothesis 4, though this support is not uniformly strong.

Effects of Hindering in Role Interdependence

A basic assumption in the theory is that role interdependence which is facilitative for persons has different effects than that which is hindering for them. Findings relevant to this assumption were found in this study. Though degrees of facilitation were actually created for subjects, and very little hindering in absolute terms was perceived by them, there were some persons who perceived relatively more hindering than others. These persons, then, were in the psychological situation of being facilitated to some degree by others in most conditions of the experiment, yet perceiving some small degree of hindering. The reactions of these subjects should have been very different from those experiencing no hindering. Table 10 indicates that those experiencing relatively higher hindering were less attracted to the group ($p < .03$), were less willing to be helpful ($p < .001$), and experienced much more emotional tension than did those who experienced less hindering. At the same time, however, there was no difference in means on production and in the scores on the index of responsibility forces between those perceiving high and low hindering. Production would not have been expected to vary because, in all likelihood, there were no actual restraints to production other than those of ability. This reason also explains the fact that there were no differences in the means of the index of responsibility forces.

TABLE 10 DIFFERENCES IN REACTIONS OF THOSE PERCEIVING HIGH AND LOW HINDERING IN ROLE INTERDEPENDENCE ON SELECTED DEPENDENT VARIABLES

Dependent Variable	Perceived Hindering		<i>t</i>	<i>p</i> *
	High (N=73)	Low (N=87)		
Attraction to Group	20.98	22.56	2.12	<.03
Willingness to be Helpful	7.59	8.60	3.40	<.001
Production	14.10	14.58	.38	ns
Index of Responsibility Forces	11.82	11.05	1.15	ns
Tension: Angry with Others	2.21	1.72	3.47	<.001
Tension: Restlessness	3.23	2.91	1.66	<.05
Tension: Hemmed In	3.27	2.64	3.53	<.001
Tension: Self-Anger	3.38	3.00	2.04	<.04

* One-tailed test

These findings suggest that hindrance—even if only perceived and not actual—has effects upon group members which are, in most instances, the opposite of those found to accompany mutual facilitation.

DISCUSSION

In general the findings indicate that group effectiveness is increased by increasing mutual facilitation. Group members move with greater speed toward the goal,

have stronger responsibility forces acting upon them, and are in more cohesive groups when mutual facilitation is high rather than low. The effectiveness is countered, however, by greater emotional tension of the group members when mutual facilitation is high. What apparently occurs, then, is that both group effectiveness and emotional tension rise with increases in mutual facilitation.

We assume, however, that most persons strive simultaneously to move as rapidly as possible toward their goals and to experience the least emotional tension in so doing. In order best to accommodate both of these strivings there is, at least hypothetically, a degree of mutual facilitation of *optimum benefit* for members of the group. That degree of optimum benefit would be the amount of mutual facilitation that maximizes the speed of movement for group members and minimizes emotional tension for them. Above this degree, production would be high but so would emotional tension; below this degree, emotional tension would be low but so would production.

If future research bears out the findings of this study, the concept of optimum benefit would have many practical implications. Persons are frequently involved in cooperative groups in which there exists some mutual facilitation. It is not enough to consider the positive effects upon group functioning stressed by Deutsch (5) and others. The negative effects due to emotional tension, and other possible side effects, must be evaluated as well. In order to approximate a degree of mutual facilitation that is of optimum benefit in any real situation, it is likely that appropriate empirical methods would have to be used that would reveal that point at which emotional tension becomes too great for comfortable work adjustment. Once this point is established, means-control or goal facilitation could be appropriately modified in order to adjust the degree of mutual facilitation within the range of optimum benefit.

Further research is necessary, however, before the present findings can be generalized. It is not clear, for example, what repercussions of emotional tension would occur if group members were given sufficient opportunity to react to their discomforts. Findings here imply that production would decrease if emotional tension were higher. Whether all the positive effects of increasing facilitation would be negated through time, however, cannot be answered from data in this study. While we surmise that this would not occur, since mutual facilitation seems to be a highly impelling phenomenon, there is every reason to suppose that there are potentially disruptive processes associated with high levels of emotional tension (8). What these are should be investigated further.

In this study the findings indicate that facilitation in means-control is much more effective in modifying group functioning than is facilitation concerning goals. This is what was expected, since means-control produced greater mutual facilitation, by the rough quantitative estimates, than did goal facilitation. Means-control, in fact, was so impelling that even when persons were told to strive for individual goals (as in the condition of HI-MC, LO-GO), most of these persons stated that they strove for *group goals* in the experiment.¹⁶ It is probable that whenever tasks are easily and readily performed, facilitation in means-control will be a more potent determinant of the effects studied here than will goal facilitation.

The reason for this is that facilitation in means-control was viewed as a function

16. Sixty-five per cent of the subjects in this condition stated that they worked harder for the group than for themselves.

of the percentage of facilitative acts of a person among all acts performed by him in means-control with another. Facilitation of goals, on the other hand, was seen as a function of the number of others being facilitated by a person; the fewer the number of others, the greater the potential contribution of any one person to the movement of others. The maximum facilitation in means-control is hypothetically 100 per cent, since *all* acts of one person could be facilitative for the other in means-control. However, the maximum goal facilitation of one person by another, if all have equal ability, cannot exceed one-half, or 50 per cent—as in the case of a two-person group. A person's goal-facilitation potential can only decrease as group size increases, since his contribution decreases proportionately with the number of others being facilitated. From this reasoning, then, we derive that given easily performed tasks and reasonably equal ability of persons, facilitation in means-control will always result in predictably more potent effects upon group functioning than will goal facilitation.

Two additional derivations follow from this reasoning. If the amount of goal facilitation is indeed a function of group size, there should be greater mutual facilitation in small groups than in larger groups with common team goals. A second derivation concerns the effects of task difficulty upon the degree of mutual facilitation in relations of means-control. If difficult tasks reduce the proportion of facilitative acts, the amount of mutual facilitation in means-control should approximate the difficulty persons have in performing their tasks: the greater the difficulty, the less the degree of mutual facilitation. Since neither size of group nor difficulty of task were varied in this study, only additional work can assess the effects they may have upon mutual facilitation.

Implicit in this study was the supposition that facilitative interdependence has basically different effects from hindering interdependence. In support of this assumption were findings showing that perceived hindrance in most cases produced effects opposite to those of perceived facilitation. One would expect actual, rather than perceived, hindrance to produce even more striking effects upon group functioning. By placing mutual hindrance at the extreme end of the continuum of mutual facilitation, it might be possible to account by means of the present theory for the effects of mutual hindrance. It is probable, however, that some extensions of the present theory would be required in order to predict all of the effects of mutual hindrance.

A final implication of these findings is a caution to experimenters in the selection of tasks for laboratory studies. Tasks requiring interdependence either in the division of labor or in goal attainment are likely, in themselves, to create impelling forces on group members that are entirely different from those created by tasks not requiring interdependence. If interdependence is facilitative, it is probable that the effects found in this study will result. If the interdependence is hindering, the opposite effects are likely to be produced. In selecting tasks, then, experimenters should determine whether there is sufficient interdependence required to have an influence on the expected results of the study.

SUMMARY

Interdependence, created by a division of labor among group members and by setting team goals, was examined in this study. The theoretical question was how

to account for the effects upon group functioning of one characteristic common both to a division of labor and to joint efforts to attain a common goal. In the theory, it was proposed that the important common characteristic is the degree of mutual facilitation among group members in interdependence.

The concept of means-control interdependence was introduced to describe interdependence created by a division of labor. In means-control members facilitate one another by allowing others to perform their tasks successfully. The concept of goal facilitation was proposed to characterize interdependence among members striving toward group or individual goals. Briefly stated, members facilitate one another regarding goals to the degree that the efforts of each actually serve to move all others toward their respective goals. With these concepts and others, assumptions were evolved by which various effects upon group functioning were derived. The hypotheses were that with increasing facilitation among persons in interdependent roles, there would occur for group members: (a) stronger responsibility forces, (b) greater speed of locomotion toward the goal, (c) greater emotional tension arising from restraining forces generated by approaching the limits of ability and by fatigue created by the speed of locomotion, and (d) greater group cohesiveness.

An experiment in which 160 female subjects participated, was conducted to test the hypotheses. Participants in groups of 5 constructed miniature houses of cardboard under strong motivation for a period of 30 minutes. In some groups, members were made interdependent by a complex division of labor in constructing parts of the houses. Members in other groups were linked together in interdependence by a common team goal. These conditions were contrasted with others in which members either did not work with a division of labor, or worked toward individual goals. When ordered appropriately, these conditions provide four degrees of mutual facilitation in interdependence.

The findings supported the hypotheses of the study. Furthermore, there was evidence corroborating the assumption that facilitative interdependence produces effects upon group functioning which, in general, are the opposite of those produced by hindering interdependence. The implications of these findings for creating an optimum degree of facilitative interdependence in practical situations was discussed. Certain derivations not tested in this study were suggested as topics for further experimentation.

It is concluded that the theory proposed here has been supported.

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BIOGRAPHICAL NOTE

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Patients' and Therapist's Apperceptions of an Episode in Group Therapy

DOROTHY STOCK AND ROY M. WHITMAN

THIS study¹ examines some of the ways a therapist and several group members view a segment of group therapy in which they have participated. The procedure consisted of playing a tape of a brief episode of group therapy to each subject, stopping the tape at intervals, and asking for impressions of what had been going on at that time. Thus, the situation that was being perceived consisted of a brief but complex and emotionally charged interaction among patients and therapist. Because of the particular character of the situation, each subject's comments constituted, of necessity, a personal selective interpretation of the group events.

The subject's statement about such a stimulus situation can most accurately be termed an 'apperception'. As Bellak (1, pp. 11-12) defined this term, it refers to 'an organism's (dynamically) meaningful interpretation of a perception'. Such an apperception is based on a long series of past perceptual experiences which have produced sets and expectations which are in turn imposed on whatever is being perceived currently. Thus, as Bellak says, '... purely cognitive perception remains a hypothesis, and ... every person distorts apperceptively, the distortions differing only in degree' (1, p. 12). Some distortions function as defenses. Projection can be seen as excessive apperceptive distortion. Other distortions may not be defensive in character, but may function to shape and organize the external world.²

In this situation, where the 'object' being perceived is the complex one of group interaction, we expect *any* statement of what is going on to involve readily observable apperceptive distortion. We further expect these distortions to have a defensive or an organizing function, or both.

Our interest in patients' and therapist's apperceptions of group events is both theoretical and practical. It is usually assumed, almost as a truism, that the group experience has a special meaning for each person in it. But one is not ordinarily aware of the character of these special meanings or the extent to which they vary.

A therapist dealing with a group forms his theories about what is going on from the verbalizations and gestures of the patients, supported by expectations and inferences derived from previous experience. Most of the private feelings and reactions of the members are unavailable to him. Some light might be thrown on the nature of group therapy if some of these more private feelings of individual patients could

1. The study reported here is part of a larger research, 'The Crucial Episode in Group Therapy', which is being supported by the National Institute for Mental Health, and carried out at the Department of Neurology and Psychiatry, Veterans Administration Research Hospital and Northwestern University School of Medicine, Chicago, Illinois.

2. With reference to this point, Bellak quotes Freud's comment in *Totem and Taboo*, p. 857: 'But projection is not specially created for the purpose of defense, it also comes into being where there are no conflicts. The projection of inner perceptions to the outside is a primitive mechanism which, for instance, also influences our sense-perceptions, so that it normally has the greatest share in shaping our outer world' (1, p. 10).

be studied. Greater understanding might be gained of the meaning of the therapy for the patients as well as clues as to more adequate ways of conducting therapy sessions.

Because of the exploratory character of the study no specific hypotheses were formed. Rather, certain areas for analysis were predetermined: the homogeneity or heterogeneity of responses among patients; the extent and character of apperceptive distortion; consistencies of apperception within patients; and relations between therapist's and patients' apperceptions of the interaction.

DESIGN

Selection of patients. Eight patients were selected for participation in a series of group therapy meetings. These included two patients from each of the following categories: peptic ulcer, neurodermatitis, headache, and asthma. The patients selected were generally comparable with respect to age, race, intelligence, verbal facility, and acceptance of the possible importance of psychological factors in their illness.

The group meetings. The group met fifteen times over a period of seven weeks. Each meeting lasted one and one-half hours and was tape-recorded. A therapist and two observers were present at all meetings. One member dropped out early in the meetings and another at about the halfway point. The group's effective membership was thus six.

The therapist at no time suggested content for discussion. His participation was minimal and consisted of interpretations of individual or group phenomena, and occasional questions to clarify content.

Selection of special episode. A thirty-minute section of the seventh meeting was selected for special study. The episode was considered, by the therapist and observer, of crucial importance for the group as a whole and of special therapeutic value for one particular member.

The overall character of this sequence can be summarized as follows: Six patients were present: Max, Jim, Gordon, Mike, Harry, and Robert; the first five were active. The group as a whole was concerned with building up sympathy and affection for one particular patient (Max). This patient was hostile, truculent, and difficult to like. He had been most vocal in depreciating the possible value of the group. The therapist and observer felt that, at this point in its development, the group had to deal with this patient either by ejecting or by assimilating him. If they failed to do this, their continued existence would be threatened. This sequence represents their successful attempt to understand and like him and include him as a member. The particular device the group used was that of building up a fantasy about the patient that would account for his behavior and make it understandable to them (see units 5, 6, 7, and 9 in the Appendix). While Max never 'capitulated' verbally, he did shift to more constructive participation (see unit 10).

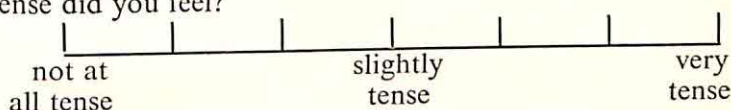
The thirty-minute episode was divided into twelve successive units. A new unit began when there was a clear shift in the topic being discussed or when a different set of patients entered the discussion. For example, a new unit might begin with the statement, 'How much more does this have to go—I'd like to bring up something.' Or a patient who had been silent might say, 'I found the same problems. Even my

own buddies . . . The twelve units identified in this way ranged in duration from 35 seconds to 3 minutes 47 seconds. Their mean duration was 2 minutes 38 seconds.

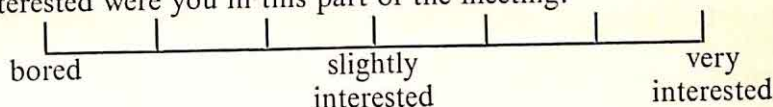
The stimulated recall procedure. The tape of this sequence was played to each of four patients³ and the therapist in individual sessions by the group observer. At the end of each unit, the tape was stopped and the following questions were asked:

1. What do you think was going on then? (Spontaneous comments were noted down. After this question was asked following several units, the subject would catch on and offer his comments as soon as the tape was stopped.)

2. How tense did you feel?



3. How interested were you in this part of the meeting?



RESULTS

The therapist's and patients' responses to the open-ended question, 'What do you think was going on then?' for each of the twelve units are presented in the

TABLE 1 PATIENTS' SELF-RATINGS* OF 'TENSION' WITH RESPECT TO TWELVE SUCCESSIVE UNITS OF GROUP INTERACTION

Unit	Patients								Therapist	
	MAX		HARRY		JIM		MIKE		rating	devia- tion from own mean
	rating	devia- tion from own mean	rating	devia- tion from own mean	rating	devia- tion from own mean	rating	devia- tion from own mean		
1	6.6	2.1	1.0	-1.25	4.2	.5	6.2	2.7	2.3	.3
2	4.8	.3	1.0	-1.25	4.4	.7	4.5	1.0	1.6	-.4
3	5.8	1.3	7.0	4.75	4.0	.3	6.5	3.0	1.7	-.3
4	6.5	2.0	4.0	1.75	3.7	0	3.5	0	2.3	.3
5	5.8	1.3	1.0	-1.25	3.8	.1	3.3	-.2	2.0	0
6	6.2	1.7	1.0	-1.25	3.9	.2	3.4	-.1	2.0	0
7	4.5	0	4.0	1.75	5.8	2.1	2.3	-1.2	1.8	-.2
8	2.2	-2.3	1.0	-1.25	3.6	-.1	6.4	2.9	2.0	0
9	3.8	-.8	1.0	-1.25	2.6	-1.1	1.5	-2.0	1.8	-.2
10	3.2	-1.3	4.0	1.75	3.8	-.5	1.4	-2.1	2.0	0
11	2.8	-1.7	1.0	-1.25	1.8	-.9	1.5	-2.0	2.0	0
12	2.3	-2.2	1.0	-1.25	3.9	-1.4	1.5	-2.0	2.1	.1
mean	4.5		2.25		3.7		3.5		2.0	

* Ratings are made on a seven-point scale, from 'not at all tense' (1.0) to 'very tense' (7.0).

3. These interviews were conducted shortly after the final meeting of the group with the four group members still remaining in the hospital at that time. They include four of the five persons active during the episode utilized.

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Appendix. In addition, a descriptive summary of each unit is presented. These summaries were constructed by the observer from a study of the transcript and tape.

Table 1 presents the therapist's and patients' responses to the question, 'How tense did you feel?'

Two clear tendencies can be seen in Table 1: first, the therapist shows less variation in self-ratings of tension than do the patients (see the generally smaller deviations from own mean for the therapist than for the patients). Second, three of the four patients show a tendency for tension to decrease over the course of the episode. (Note that for Max, Jim, and Mike ratings for earlier units tend to be above their own mean while ratings for later units tend to be below their own mean. Harry constitutes an exception to this tendency.)

The therapist's and patients' responses to the question, 'How interested were you in this part of the meeting?' are presented in Table 2.

TABLE 2 PATIENTS' SELF-RATINGS* OF 'INTEREST' WITH RESPECT TO TWELVE SUCCESSIVE UNITS OF GROUP INTERACTION

Unit	MAX		Patients HARRY		JIM		MIKE		Therapist	
	rating	devia- tion from own mean	rating	devia- tion from own mean	rating	devia- tion from own mean	rating	devia- tion from own mean	rating	devia- tion from own mean
1	6.7	1.2	7.0	1.7	6.7	1.2	6.0	1.7	6.2	1.5
2	6.8	1.3	7.0	1.7	6.7	1.2	5.5	1.2	4.3	-.4
3	6.7	1.2	7.0	1.7	4.2	-1.3	2.2	-2.1	4.7	0
4	6.6	1.1	7.0	1.7	6.7	1.2	4.2	-.1	5.2	.5
5	6.5	1.0	4.2	-1.1	1.5	-4.0	6.2	1.9	5.0	.3
6	6.4	.9	7.0	1.7	4.2	-1.3	3.2	-1.2	3.5	-1.2
7	6.7	1.2	1.2	-4.1	6.3	.8	6.2	1.9	3.9	-.8
8	4.2	-1.3	1.0	-4.3	6.6	1.1	5.5	1.2	5.0	.3
9	6.5	1.0	1.0	-4.3	4.2	-1.3	3.3	-1.0	5.0	.3
10	4.0	-1.5	7.0	1.7	6.3	.8	6.3	2.0	4.6	-.1
11	1.8	-3.7	7.0	1.7	6.3	.8	6.5	2.2	4.4	-.3
12	3.2	-2.2	7.0	1.7	5.9	.4	6.5	2.2	4.7	0
mean	5.5		5.3		5.5		4.3		4.7	

* Ratings are made on a seven-point scale, from 'not at all interested' (1.0) to 'very interested' (7.0).

In ratings of 'interest' (shown in Table 2), the five persons tested show no common trends. Each subject seems to react in a personal way. Max, for example, is least interested toward the end of the episode. Harry is least interested during the middle units.

DISCUSSION OF RESULTS

The results will be discussed under four major headings: I. variety of individual apperceptions of group events, II. conditions under which common perceptual

focusing occurs, III. apperceptive biases of individuals, and IV. relation between therapist's and patients' apperceptions of group interaction.

I. VARIETY OF INDIVIDUAL APPERCEPTIONS OF GROUP EVENTS. The responses presented in the Appendix indicate considerable variety in patients' apperceptions of the same group event. Patients often respond to different aspects or details of the group situation; even when responding to the same aspect, each patient's statement about it is in some way unique. For example:

In unit 8, Max responds to a single phrase only (where Mike, in describing his anger against his boss, says, '... and *being small don't have no bearing on it*, I threw the place up for grabs'). Harry responds to the total content but cannot empathize with Mike and says, 'It was a lot of bunk.' Jim's response indicates an autistic preoccupation that was touched off by something that happened in the preceding unit. He is responding to an entirely personal concern that has no connection with current group events. Mike, like Harry, responds to the total situation but assumes that everyone shared his own feelings of resentment.

Such variety is typical and suggests that most of the time the group situation has a very personal and unique meaning for the persons participating in it.

After studying all responses to all units in some detail, it seemed to the authors that while each apperception is in some way unique, the following four categories account for most of the responses:

1. *Apperceptions that function to organize the stimulus situation*

(a) *Descriptive responses.* The response consists of a straightforward summary of the group situation. ('We were trying to find out, between Max and Jim, if aggravation had a definite relation to their ulcer.') .

(b) *Affective responses.* The response consists of an emotional reaction to the situation. ('I was angry.' 'I was enjoying it.')

2. *Apperceptions that function to defend against some aspect of the situation, or against affect aroused by the situation*

(c) *Ego-defensive responses.* The response consists of a defense against the individual's real feelings about the situation. ('Nobody was really angry.' 'I brought it up because it was part of *their* problem.')

(d) *Selective inattention.* The response is restricted to a partial aspect of the stimulus situation. ('I remember part of that—about the horse.')

Of these four categories, the first two have an organizing function: the descriptive response organizes by producing a cognitive summary of the interaction, while the affective response organizes by relating oneself affectively to the situation. The last two categories have a defensive function: the first of these includes typical ego-defenses employed to protect the individual from affect aroused by the situation. Selective inattention deals defensively with the situation by, in effect, shutting out disturbing aspects of the interaction. In the present case, a large proportion of perceptions are defensive in character—(c) and (d)—while a relatively small number can be classified as purely organizing in function—(a) and (b). It is as if the need to defend oneself is primary. Within the two defensive categories, a variety of specific defenses can be observed. One reason why the responses as a whole are so varied is because a wide range of defenses are employed by the patients. Almost all of the

defensive mechanisms referred to by Anna Freud (4) are utilized. However, the group therapy situation seems more likely to elicit certain defenses than others. In the present example, the following ego-defenses can be noted:

Projection. For example, in unit 10 when Harry turns the discussion to the topic of sex and his interest in nurses, Jim says, 'Most of the guys felt shy about talking about sex, because of you being there' (i.e. female observer).

Rationalization. For example, in unit 12 Harry brings the discussion back to sex by saying (in the group), 'As long as we're on the subject of sex', and then asking less experienced members of the group how they feel about sex. Later, in commenting about this unit, he says, 'The subject was turned back toward me.' (Projection.) 'I brought it up because it was part of their problem.' (Rationalization and projection.)

Reaction formation. For example, in unit 3 where Harry questions Max about his eating habits in a hostile way and both get angry, Jim says, '... It was more of a discussion about food. Nobody was mad; people were laughing.'

Selective inattention, as a mechanism, may vary from shutting out certain parts of the situation (constriction) to shutting out the entire situation (autistic preoccupation). Some examples follow:

Constriction. In unit 9, the discussion is concerned mainly with making explicit the warm feelings the members have about Max. An incidental comment is made about Gordon's previous story about betting on a horse. Of this unit, Jim says, 'I remember part of that—about the horse.'

A further example occurs in unit 7 where many members indirectly express positive feelings for Max, and the leader makes this feeling explicit in an interpretation. When Harry later was asked, 'How did Dr. Whitman feel about Max?', he said, 'That slipped by me, I remember everything but what Dr. Whitman said. I think he was angry.'

Autistic preoccupation. Maximum distortion occurs when the patient becomes autistically preoccupied and directs his attention to internal concerns rather than the external interaction. This occurs only once in our sample: In unit 8, Mike tells the group about his job difficulty upon returning from service. Gordon supports him. Of this unit, Jim says, 'Gordon—I don't know if he knew my trouble, he might have.' Our interpretation of this comment is as follows: in the preceding unit when post-Army job problems are first raised, Jim says, 'I went through it. It bothered me. It was kind of a sore spot to me.' Unit 7, in other words, touches on a sensitive spot and leads Jim to begin to think about his own problems. From information that emerged slowly during meetings subsequent to this one, the authors feel reasonably certain that the 'trouble' in his response to unit 8 refers to a fear that someone is following him and will kill him. At this time, he was still carefully concealing this fear from the group. In other words, a chain of private concerns is triggered by the content of unit 7 and produces, in unit 8, a response that has no relation to current group events. It is interesting to note that Jim recovers slowly and is not really 'with' the group again until unit 10.

II. CONDITIONS UNDER WHICH COMMON PERCEPTUAL FOCUSING OCCURS. The great variety of responses at first suggests that similar apperceptions never occur. While

it is true that there is no time at which all four patients see the group situation in exactly the same way, there is one point (unit 3) at which all patients respond to the same aspect of the interaction. In this unit, the hostile interchange between Max and Harry apparently compels the attention of all the patients, since all take account of and deal in some way with the expression of anger. The 'effective stimulus' is the same for all patients, although the way they deal with the effective stimulus varies. For example, Max locates the anger and the responsibility for it on Harry. Harry partially denies and partially dilutes his anger by saying, 'It's a misunderstanding of physical symptoms'; Jim denies the anger; and Mike recognizes the anger, locates it in Harry, but then accounts for it by suggesting that perhaps Harry was justified in feeling angry. Here, then, is a case in which the attention of each member is focused on the same aspect of the group interaction—the rather direct expression of negative feeling. Later (in unit 9) when the prevailing affect is positive feeling, this kind of coming together does not occur.

A second communality occurs with respect to patients' rating of 'tension'. Three patients out of the four tested show a general decrease in felt tension over the twelve units. No such common tendency exists with respect to ratings of 'interest'. If 'interest' is considered a somewhat intellectual quality and 'tenseness' a generalized emotion, it is with respect to affect that communality occurs. The reduction in tension can be seen as an affective response to the successful working-through of a group problem:

The group is faced with the task of integrating or getting to like a particular member. During this episode (units 1-9), they work at this task and succeed in constructing an 'explanation' for Max's behavior which permits them to like him. In units 10-12, they move on to another topic. That they have succeeded in their goal is perhaps demonstrated both by the fact that they *can* move on and by the fact that Max now participates in a more constructive manner.

The first finding suggests the possible compellingness of the expression of strong negative affect in the group. The second suggests that most patients respond similarly with respect to a generalized emotion like 'tenseness' in response to a commonly faced group problem.⁴ Together, these findings suggest that communality in apperception, when it occurs, may be related to the common experiencing of strong affect in the group.

III. APPERCEPTIVE BIASES OF INDIVIDUALS. Each patient, in his percepts, displays a consistent and characteristic 'approach' to interpersonal relations. We assume that he brings with him into the group situation a certain apperceptive bias which is more or less established and which colors his view of what is going on. For example, Max's most characteristic percept involves people trying to impress him (units 7, 8, 10, and 11) and people picking on him (units 3, 4, and 6). This amounts to a very well-established, entrenched view of the world which is projected onto most situations and broken into only with difficulty.⁵ All patients do not reveal so pervasive

4. Harry does not report a reduction in tension and thus constitutes an exception to the general trend. There is some indication that he was angry because Max was receiving so much attention. It is no surprise, then, that the group's solution (i.e. liking Max and drawing him into the group) produces no tension reduction in Harry. This is part of a larger general issue of groups that very rarely does a group solution satisfy *all* the members of the group.

5. The identification of a particular bias requires first, identifying consistencies, and second,

a bias but in the present illustration Harry can be seen as using a number of devices to hide his own anger; Jim consistently denies the presence of strong feeling in the group; and Mike typically acts as an 'observer'.

There are specific times when a patient seems to depart from his typical apperceptive bias. Such moments may be particularly revealing diagnostically or useful therapeutically. For example:

Mike, who typically assumes an observer role, departs from this at two points. The first (units 1 and 2) is in response to another patient demanding attention from a nurse. Mike is irritated by this and withdraws his attention to this detail rather than producing his more typical summary of the unit as a whole. The second instance, units 7 and 8, occurs when the content of the discussion reminds him of an injustice (he wasn't paid as much as other men on the same job). Both of these are the same situation—he has not received the amount of attention or nurturance that he feels is his due.⁶

This is an illustration where a consistent departure from a pattern provides useful cues to the therapist as to the locus of a patient's problem. A second illustration suggests the possible therapeutic value of such exceptions:

Max has been described as a suspicious person who believes others are picking on him or trying to lord it over him. Yet in units 5, 6, 7, and 9, he admits, though reluctantly, that another patient was friendly to him. In the opinion of the therapist and the observer such an admission on the part of this patient—plus the experience of being overtly liked by another—was of therapeutic value for him.

IV. RELATION BETWEEN THERAPIST'S AND PATIENTS' APPERCEPTIONS OF GROUP INTERACTION. Patients' apperceptions appear to differ from the therapist's apperceptions in several ways. The therapist is likely to see current group events in the context of a rather broad time-span. This is shown, for example, in his linking unit 7 with unit 3, and seeing the activity of unit 1 as part of a previously established group standard. Patients, on the other hand, are more likely to respond to the immediate situation. They sometimes see continuity between successive units (e.g. Mike's comments about units 4 and 5) but do not tie up longer sequences. Although the character of their comments is quite different, both the therapist and the patients devote some attention to understanding individuals. For example, the therapist says, in unit 1, 'Max's masculine protest reaction was very clear'; Mike, in unit 2, says, 'Harry always beats around the bush.' The therapist is more likely to speak in terms of 'the group' than is the patient. For example, in unit 5, the therapist says, 'The group, with Gordon as spokesman, was constructing a fantasy to make Max's belligerent behavior acceptable to them.' Patients are less likely to comment on this level: although they sometimes pick up a group *mood*, they do not comment on a total group process or dynamic. A very consistent difference is the patient's tendency to respond with direct affect contrasted with the therapist's tendency to maintain a diagnostic non-affective and non-judgmental attitude.

Most of the therapist's comments about the group interaction can be categorized

comparing the patient's percepts with some criterion. In this study, we rely for such a criterion on the observer's summary of each unit, which was based on a study of the tape and transcript.

6. It is interesting to note that this patient has bronchial asthma and that his points of vulnerability are those demarcated by French and Alexander (3) for the dynamics of asthma.

as descriptive responses that have an organizing function. It seems reasonable to suppose that he is influenced by the need to maintain a therapist's role and by previous experiences and expectations about group and individual dynamics. An interesting aspect of the therapist's apperceptive bias is shown in his relative unawareness of Harry's hostile attitude toward Max in units 3 and 6. In reviewing the tape and transcript, this hostility seemed quite apparent to both the therapist and the observer. In examining his feelings, the therapist felt that this failure to perceive Harry's hostility was related to his wish for the group to succeed in the problem with which it was dealing, i.e. developing positive feelings for Max—and to his more general wish for the group to maintain unity.

The major differences between therapist's and patients' responses can best be summarized as follows: the therapist is likely to maintain a 'diagnostic' attitude and to see both the total group and individual dynamics in a fairly broad time perspective. Patients, on the other hand, are more likely to respond with direct affect to immediate group events.

The findings discussed above are based on the intensive study of a brief episode that occurred in a single therapy group composed of particular patients and a particular therapist. Our findings should be regarded as hypotheses requiring further testing in a variety of group therapy settings. From experiences with other groups, we would expect certain of the findings to hold up quite well while others might require modification. For example, the four apperceptive categories (descriptive response, affective response, ego-defensive response, and selective inattention) might hold for all groups, but the patients of another group might display relatively fewer ego-defensive responses, relatively more selective inattention, etc. Some of the differences noted between the therapist's and patients' responses might be somewhat different for other therapists.

IMPLICATIONS FOR THE CONDUCT OF GROUP THERAPY

Two of our findings are of special interest here: the great variety of percepts on the part of individual patients, and the fact that the therapist often views the group in terms that are quite foreign to the patients. These findings suggest that there may be far less unanimity in the way the situation is perceived than a therapist ordinarily realizes. Something that may seem quite obvious to the therapist may be ignored or distorted by a larger part of the group. Further, in the ordinary course of group events the private reactions of most of the patients remain private. The therapist remains unaware of them or at best must infer their character indirectly. Under these conditions, the therapist may be more out of touch with the patients than he realizes. To put this in another way, the therapist may be in touch with group events as a whole but the patients may not be—they are more likely to be following some idiosyncratic line, responding in terms of personal needs and anxieties.

If such is the case, some theoretical and practical questions of group management arise. For example: should the leader attempt to make private percepts more public? What sort of interpretations are appropriate and useful to the members? At what points can interpretations most profitably be introduced into the group? Definitive answers to these questions cannot be given on the basis of this study, and probably will always remain the province of the individual therapist and his

personal preferences. We wish mainly to call them to the attention of the reader and to point out some considerations in dealing with them. With respect to the first point, the therapist could ask for personal impressions of what is going on or personal reactions to the discussion at certain points during a session. The chances are that he would gain some, but certainly not complete, information. The advantages that might accrue from such procedures must be weighed against possible disadvantages—such as increased feelings of pressure on the part of the patients.

There are times when the group does focus on a single patient's problems. At such times, the group is in effect 'permitting' the member to have the attention of the therapist; interpretations on an individual level are appropriate. At other times, the situation is more confused and the therapist may be aware that a number of patients are producing interpretable behavior. The therapist cannot interpret on a multiplicity of individual lines at the same time. In such circumstances, it seems more appropriate to focus interpretations on a group level, since the development of a total group theme or problem is something to which all members are contributing or reacting in one way or another, in spite of apparent diversity. Moreover, such total group concerns seem to have a certain inevitability or momentum about them—they arise out of compelling group needs and must find some resolution. Interpretations at this level help make explicit the concerns of the total group: they state 'what the group is doing'. The episode studied here illustrates this point: the compelling group need is to maintain group unity by assimilating a difficult member—Max. They do this by constructing an 'explanation' for his objectionable behavior, and then by directly expressing liking for him. This, then, represents the group's problem and their solution of it.⁷ In the course of working out this group problem, a number of members reveal personal characteristics and conflicts (e.g. Jim and Mike, their concern about being cheated after the war; Harry, his concern about sex, etc.). The therapist's interpretations could have concerned themselves either with these individual manifestations or with the total group issue. In our opinion, the latter is the more appropriate level of interpretation in this case for several reasons: it represents the more compelling need (i.e. it is going to be worked on whether the therapist recognizes it or not); the issue is blocking further group movement; and working through this problem is beneficial for the deviant member, Max. The timing of such interpretations is of crucial importance. An interpretation explored or because not enough members have developed at least subliminal awareness of the group issue. The finding that communality may be related to the experiencing of strong affect suggests that the most appropriate and useful point at which such a point, the interpretation may be most inescapable to the group members. A serious question that must be answered in the future is the 'therapeutic' effect of insight into group interaction by an individual member: is this insight alone helpful or must it be interwoven with his individual dynamics?

7. This way of formulating total group problems and their resolutions is being worked out in greater detail in the larger study of which this paper represents one part. The term, 'group focal conflict', is being applied to the total group issue which can best explain and account for all of the specific elements of the interaction (5). This is analogous to Thomas French's work with the focal conflict in individual analytic sessions (2).

IMPLICATIONS FOR THE ASSESSMENT OF MOVEMENT IN GROUP THERAPY

The episode analysed in this paper was originally selected for special study because it was assumed to be of special importance to the group's development and of special therapeutic value for a particular patient. It has already been pointed out that under the impact of the group's positive feelings for him, Max at least momentarily abandons his habitual view of the world ('everybody picks on me') and can recognize that others can and do like him.

This suggests that therapeutic moments may come when the group situation forces a patient into a percept that is contrary to his habitual view of the world. To quote Max, he can say, 'He was trying to help me!' rather than, 'The group was picking on me!'

If the patient's view of the world is so very well-established and ingrained, how is the group able to penetrate it? It should be pointed out that, in this case, the change in Max's responses to the others occurs only after solid effort of some duration on the part of several group members. Yet he is reached and shows that he has been by his more constructive behavior toward the end of the episode. One of the findings (in section 4 under discussion of results) suggests the compelling nature of affect aroused under group conditions and shared by most members. In this instance, the shared overall group feeling is one of *liking for Max*. This feeling is expressed repeatedly, unambiguously, and (eventually) unanimously, in both direct and indirect terms. Although he struggles against it for some time, Max cannot remain unaware of the positive affect that other members are directing toward him.

All this suggests that in a group situation the corrective emotional experience may derive its forcefulness from the unanimity and unambiguity of affect and from its sheer quantitative impact. For Max to maintain his usual 'everyone's against me' attitude in the face of this expression of affect would involve totally autistic distortion.

An interesting point here is that the group is not deliberately setting out to create therapeutic conditions for Max. They do not say, 'Today we will concentrate on Max and show him that we really like him.' Rather, their expression of positive feeling is a by-product of a *group* need to integrate all the members into the group.

A useful therapeutic experience need not be put into perceptual terms—there are times, perhaps, when a situation cannot be described in this way. However, it is interesting that in this particular case one way of stating the situation is to say that the needs of the group forced the patient out of a habitual way of viewing his relationships with other persons, and into a more 'realistic' percept.

SUMMARY

Patients' and the therapist's apperceptions of an episode in group therapy were examined. The procedure consisted of playing a tape of a thirty-minute sequence of group therapy to each subject, stopping the tape at intervals, and asking for impressions of what had been going on at that time.

The results may be summarized as follows:

1. Patients display great variety in their apperceptions of group interaction,

suggesting that most of the time the group situation has a very personal and unique meaning to the persons participating in it.

2. Patients' apperceptions tend to fall into one or several of the following categories: descriptive response, affective response, ego-defensive response, and selective inattention. The first two may be seen as attempts to organize the external world. The latter two may be seen as attempts to defend against some aspect of the situation, or against affect aroused by the situation.

3. In a therapy group, the patients' apperceptions most frequently function as a defense.

4. Communality in apperception, when it occurs, seems to be related to the common experiencing of strong affect in the group.

5. Each patient displays, in his percepts, a consistent and characteristic 'approach' to interpersonal relations, i.e. an 'apperceptive bias'. Departures from his atypical pattern may be revealing diagnostically or of therapeutic importance for the patient.

6. Therapist's and patients' apperceptions are likely to differ in that the therapist maintains a diagnostic attitude and sees total group and individual dynamics in a broad time context. Patients are more likely to respond with direct affect to immediate group events.

These findings have implications both for the conduct of group therapy and for understanding the character of change in group therapy. The therapist may not always be aware of the considerable variety of apperceptions among patients or of the differences between his and the patients' ways of viewing the group. One way in which group therapy can be useful to the patient is in providing a situation in which his habitual ways of viewing his relationships with others can be specifically examined and modified.

APPENDIX

The therapist's and patients' comments about twelve successive units of interaction in a therapy group are presented below. For each unit, the observer's summary of the content is presented first in a separate paragraph. Following this, the therapist's and four members' responses to the general question, 'What do you think was going on then?' are listed.

UNIT 1 (36 seconds)

Max complains that the nurse doesn't pay enough attention to him. Harry asks how Max's ulcer feels. Max sounds angry and says he is 'aggravated'. T. suggests Max would rather have his stomach hurt than his pride hurt, and he agrees.

Therapist: The group's standard of asking a person how their symptoms were at a time they were expressing affect had been absorbed by Harry. Max's masculine protest reaction was very clear, as illustrated by my interpretation.

Max: No comment.

Harry: I was trying to get at Max's problem. We were all trying to dig out what his problems were but not in a friendly way. We were doing it in an immature way; we didn't know how to go about it. Maybe we were a little hard on him.

Jim: I was disappointed in Max; he was wanting sympathy. He was no sicker than the next man.

Mike: I felt irritated. If he was that sick, he should try to do something for himself. He was right in a way because some patients do get preference over others. But in this case he was wrong.

UNIT 2 (35 seconds)

Harry asks the other ulcer patient, Jim, how his stomach feels. The interchange is entirely between these two patients. Under questioning, Jim says he is aggravated but his stomach doesn't hurt.

Therapist: Harry continued to play the role of assistant therapist in trying to find out Jim's reactions and also trying to bring more members into the group discussion. There is a hint of hostility in his questioning of Jim.

Max: No comment.

Harry: We were trying to find out, between Max and Jim, if aggravation had a definite relation to their ulcer. Evidently it didn't have an effect.

Jim: Harry was trying to size me up with Max.

Mike: I was still slightly aggravated toward Max. (What about Harry?) He always beats around the bush. He was just probing.

UNIT 3 (2 minutes 19 seconds)

Harry questions Max, in a hostile way, about his eating habits. Max responds angrily by saying Harry can't be very sick if he can eat as well as he does. Jim says he eats no better than Max. Harry says, 'All I eat in the morning is coffee'; and Max says, 'I feel sorry for you.'

Therapist: Competition among patients to see who is sickest. Also fleeing from the emotional causality of symptoms to food.

Max: Harry was picking on me.

Harry: I started out very angry. We didn't understand each other's pain. Max doesn't understand my asthma nor do I understand his ulcer. It's a misunderstanding of physical symptoms.

Jim: Max was still looking for everyone to side with him. It was more of a discussion about food. Nobody was mad; people were laughing.

Mike: Harry was upsetting Max more than he already was. He was aggravating the situation a little bit. He was trying to get back at him for some reason or other. Maybe about something that happened outside.

UNIT 4 (3 minutes 10 seconds)

T. suggests that 'Max is against the rest of the group and everybody is picking on him'. The group denies this and Max says, 'He thinks we're picking on him.' Positive feeling is then expressed toward Max: he was in a good mood last night; we want to understand him better; we want to pull him in with us more. Max says, 'Nobody pulled me into the conversation. I got into the conversation by myself.'

Therapist: The group is trying to pull Max in but he resists in the sense that he opposes anything that others want to impose on him—his oppositional tendencies. Seems to be dealing with his usual perception of a hostile environment, which in this case is inappropriate. The therapist is trying to show the inappropriateness of his response in the present situation.

Max: I felt the group was picking on me. (Why?) I don't know: maybe they were trying to embarrass me.

Harry: No comment.

Jim: Everybody was in on that—Mike, Gordon. Max was interested in the group but he didn't want anyone to know. If you'd asked him how he liked the group, he'd say no but actually he did. It was like a game.

Mike: Everybody was trying to reach Max a little better. He was starting to come around; there was no reason to hammer at him. He started to feel the world wasn't so against him, although he wouldn't admit it. I was like that when I was younger. I could understand him a little sooner than some of the others. He should have been left alone.

UNIT 5 (3 minutes 47 seconds)

Gordon says he would like to ask Max a lot of questions but is afraid of making him angry. Gordon goes on to ask about the number of children in Max's family, the scarcity of money, etc. Finally Gordon says, '... arriving at a conclusion, he was denied everything; ... now he wants to get up on top ... and nobody is going to help him do it.'

Therapist: The group, with Gordon as spokesman, was constructing a fantasy to make Max's belligerent behavior more acceptable to them. They were constructing a fantasy of deprivation, as if they were familiar with the emotional syllogism 'deprivation equals hostility'. All the members felt very friendly and participated in the fantasy. Max is very chastened.

Max: Nothing. (Did you agree with Gordon?) Yeah, he made a lot of sense.

Harry: The group was bored. Gordon was playing psychiatrist, more or less building himself up instead of Max. He could be friendly or he could just be playing the big shot.

Jim: It took Gordon so long to tell anything. I was impatient. Gordon was disappointed because he wasn't getting his point across. The biggest percentage of the group was bored—probably Max, too.

Mike: We were reaching Max; then he got back on the old track again. He slipped back again. I got irritated.

UNIT 6 (3 minutes 22 seconds)

Harry takes over the interrogation but in a somewhat hostile way. Gordon speaks for and defends Max. Harry and Jim try to clarify chronology; when Max was in the Army, when his ulcers began, etc. Max says he thinks he has had ulcers all his life.

Therapist: The fantasy construction continues. The group is still very friendly to Max and Max plays down his protest reaction because he wants to be included in the group. The lifelong nature of Max's problem is apparent. Jim is the most understanding of Max.

Max: Harry was giving me a hard time. Gordon wasn't picking on me; he was trying to help me.

Harry: If it hadn't been myself asking the questions, the group might have been slightly bored because of the answers I was getting. I never did get an answer.

Jim: I could feel a little sympathetic. I think Dr. W. was, too, because after all he's used to people like that, or at least I hope so.

Mike: I was feeling sorry for Max; he was getting trapped again. I felt they were picking on one guy too much; he was upset to begin with. Harry was trying to get back at him. Dr. W. was trying to reach him.

UNIT 7 (2 minutes 17 seconds)

Gordon suggests that when Max came back from the Army all the good jobs were taken and he was left out. Harry denies that this happened to veterans. Both Jim and Mike quickly say this happened to them, too. T. suggests that the members are really expressing positive feelings toward Max. Max says Gordon is 'talking more or less associations'.

Therapist: Gordon continues with the fantasy which is inappropriate and which he cannot stop perseverating about. The group is organizing and wants to include Max in around the nodal point of their war experiences and deprivation. It would be like a continuation of, 'Who got the worst of it,' like with the food. More an inclusive thing rather than direct competing.

Max: Gordon was trying to impress people—a lot of bull. (Do you think he was sympathetic toward you?) Yeah, I do.

Harry: They were upholding Max's feelings, backing him up. I thought they were wrong; I didn't find those things to be true. There were no feelings against servicemen after the war. I was bored because I didn't feel those conditions existed. (How did Dr. W. feel about Max?) That slipped by me. I remember everything except what Dr. W. said. I think he was angry.

Jim: I went through it. It bothered me. It was kind of a sore spot to me.

Mike: Gordon himself felt resentful. They resented it, too.

UNIT 8 (1 minute 33 seconds)

Jim, and especially Mike, elaborate on their own job problems upon returning from the service. Both, especially Mike, speak with considerable feeling.

Therapist: A lot of shared feeling about postwar discrimination. They are trying to organize the group tighter because they all share hostility about the non-vets, which become the out-group. Mike has particularly intense feelings which prompt him to give the most affectively toned story of his participation in the whole therapy.

Max: Mike was trying to impress people. Just because he was small was no reason to pick on him. \$.15 an hour ain't much to get excited about.

Harry: That line of talk was new to me. I'll have to mark that bored because it was a lot of bunk. If Jim had worked 3-4 years steady, he would have had a car. He shouldn't have any resentment toward men who had cars.

Jim: Gordon—I don't know if he knew my trouble; he might have.

Mike: Everybody had the same trouble and resented everybody else.

UNIT 9 (2 minutes 30 seconds)

O. suggests that the members are saying that they like Max and can understand him because they have had similar experiences. Gordon again expresses liking for Max and compares some of Max's reactions to his own (i.e. 'Why should other people

win and not me?") Max makes a joke: 'Everybody's mad; it's like a madhouse', and everyone laughs.

Therapist: Very strong undercurrent of good feeling in the group even though they were discussing hostility. Both therapist and observer seemed to share in this feeling. Content seemed very secondary to affect.

Max: I feel friendly toward Gordon because he said all those nice things about me. I was still mad at the group because when I'm mad, it takes me a long time to get over being mad. (You were still mad about something that happened earlier?) Yeah, sort of left over. Nothing happened then to make me mad.

Harry: No comment.

Jim: I remember part of that—about the horse.

Mike: Everyone was in a jovial mood—the storm was over. It wasn't interesting but it was nice to see everybody nice.

UNIT 10 (3 minutes 17 seconds)

Harry abruptly changes the subject by asking how much more time there is and then saying, 'I'd like to ask Jim and Gordon if they contribute my asthma to the nurses.' Jim and Gordon then jokingly accuse Harry of spending all his time with the nurses, etc.

Therapist: Harry competes for attention in the group by bringing up sex, an always attractive issue. The good spirit, however, of the meeting continues so that both Jim and Max are not hostile toward Harry for doing this but instead join as equals in the pursuit of women.

Max: Gordon was shooting the bull.

Harry: I was angry at Gordon when he said 'definitely'.

Jim: (Laughs) That Max. Most of the guys felt shy about talking about sex, because of you being there.

Mike: Very friendly discussion.

UNIT 11 (40 seconds)

Gordon's off-color comment about sex sends the group off into a period of giggling and sly comments ('I'm going to bring up something you said.' 'OK, get even with me,' etc.).

Therapist: Individual neurotic dealings with sex show up in a kidding form, both Gordon and Jim being anxious about their inadequacy.

Max: Gordon was trying to impress us—he can get girls.

Harry: I was enjoying it but there was a guarded feeling because I could have hurt someone in the group.

Jim: That was all a joke—friendly joking.

Mike: Very amusing, everyone feeling very well.

UNIT 12 (1 minute 40 seconds)

Harry breaks into the joking by saying, 'As long as we're on the subject of sex, how about you?' (Robert and Max). Both these patients say they enjoy sex and Harry says, 'In other words, I'm the only disturbed person here.' Gordon, Max, and Jim

begin to suggest some of Harry's problems with women—he's more interested in showing off with girls than in sex *per se*.

Therapist: Harry tried to disclaim responsibility for bringing up sex by saying, 'As long as we're on the subject of sex.' He continues to maintain attention on himself but in a devious way; that is, by questioning members of the group who have obvious problems in this area. The group positive feeling remains very high and they are moving into a more productive discussion of sex, rather than just joking.

Max: No comment.

Harry: The subject was turned back toward me. I brought it up because it was part of their problem.

Jim: No comment.

Mike: No comment.

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BIOGRAPHICAL NOTES

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The Visibility of Interpersonal Preferences¹

RENATO TAGIURI AND NATHAN KOGAN

IN THE present paper, some factors associated with the differential visibility of affective preferences sociometrically defined are examined. In a previous note (2), the authors offered empirical evidence that, in general, sociometric preferences have visible manifestations, and that the extent to which a group member's preferences are known to the others depends, above all, upon whether they are reciprocated or not. Apparently, when we consider a member's preferences for other group members, we utilize his behavior toward others as well as others' behavior toward him. If one develops an hypothesis that a given member likes another member on the basis of the first member's behavioral manifestations of choice, that hypothesis is further confirmed by the second member manifesting reciprocation. Visibility of choice, then, is a dyadic phenomenon; *it is the interaction between two persons that is evaluated.*

Here we report further observations on dyadic determinants of the visibility² of interpersonal preferences. The major hypothesis is that feeling chosen on the part of either member of the dyad, S or O, is related to manifest behavior which, in turn, provides cues to others as to the preference of S for O. More specifically, the visibility of S's choice will be lowest when neither S nor O feels chosen by the other, intermediate when S feels chosen by O or when O feels chosen by S, and highest when both S and O feel chosen by each other.

SUBJECTS AND PROCEDURE

Five groups of Navy enlisted personnel with 12, 12, 15, 16, and 22 men, respectively, were used as subjects. In each case the groups had been working and living together for at least two months on board ship as members of CIC teams.

The following group procedure was used. *First*, the subjects were requested to indicate those of the crew with whom they would like to spend a 72-hour liberty ('choices'). *Second*, they were asked to guess who would choose them as companions for a 72-hour liberty. Following these two questions, the members were instructed to underline the three persons they preferred most among their choices and the three by whom they felt most surely chosen. If they had referred to fewer than three persons, they were required to add enough names to bring the list up to three. Thus, the procedure made available data on both *free* and *fixed* selections, corresponding

1. This work was done in the Laboratory of Social Relations, Harvard University, under United States Navy sponsorship. Investigation of this problem began under Contract No. N5ori-07646 under Jerome S. Bruner, and continued under Contract No. N5ori-07670 under Renato Tagiuri.

2. In the previous paper on this problem (2), the authors used the term 'transparency' as an operational definition of the extent to which a *member's* three fixed choices were identified. Since the present analysis will deal with *specific choices*, the term 'visibility' is used here in order to avoid confusion.

to different degrees of preference and of confidence in feeling chosen. As a *third* question, the subjects were asked to try to identify which *three* men each other member would choose as companions for a liberty.

RESULTS

The procedure is such that the other members of the group are required to identify only an S's *strong* preferences, i.e. his fixed choices. S's strong preference may occur *vis-à-vis* three degrees of preference of O for S, and together with three degrees of 'feeling chosen' by both S and O. Thus, there are 27 distinguishable dyadic conditions in which S's strong preference may occur. These are represented by the cells of *Table 1*, where the visibility of a choice is expressed as the percentage of group members who identified it correctly. This is the average visibility, in percentage terms, of each dyadic type for the five groups of subjects.

The relationship between reciprocation and visibility reported previously (2) is reflected in the three marginal averages at the bottom of the table. Where O expresses a strong preference, the visibility of S's choice reaches its highest value (55.5 per cent). Where O expresses a mild preference for S, the visibility value (35.7 per cent) is only slightly higher than when O does not choose S at all (29.4 per cent). The difference between 55.5 per cent, on the one hand, and 35.7 per cent and 29.4 per cent, on the other, yield critical ratios of 2.37 and 3.44, respectively ($p < .01$, one-tailed tests). A significant difference is not achieved between the case of a mild reciprocating choice and that of no reciprocation. Clearly, it is the more intense reciprocation by O that enhances the visibility of S's preference. In view of this relationship, O's preference for S will then be held constant in order that the influence of self-confidence on visibility be distinguishable from that of reciprocation.

Let us examine first the effect of S's confidence in being chosen upon the visibility of his choice. Within each level of O's preference for S, the visibility of S's choice increases with the degree to which he feels confident of reciprocation (cf. row means in *Table 1*). When S is highly confident, his choice is more likely to be known than when he is only moderately confident or when he does not feel O chooses him at all. The effect of S's confidence is most pronounced under conditions of reciprocated choice, especially if S is one of O's three strongest preferences. In each case the results are consistent with the hypothesized relationship between S's self-confidence and the visibility of his choice. This relationship is reflected in the right-hand marginals, where the difference between the high confidence (46.5 per cent) and no confidence (23.8 per cent) conditions reaches statistical significance ($z = 2.59$, $p < .01$, one-tailed test).

Let us turn next to the effect of O's confidence upon the visibility of S's choice. Unfortunately, here the frequencies associated with several marginals are too small to permit a satisfactory statistical treatment, thus limiting the interpretation to a consideration of trends. When S is one of O's stronger preferences and O feels highly or moderately confident of being reciprocated, higher visibility values (56.6 per cent and 59.8 per cent) result than when O does not feel chosen (28.3 per cent). Under conditions of mild preference by O for S, relatively high visibility (55.0 per cent) occurs only when O is highly confident of being chosen by S. When O does not reciprocate S, the visibility of S's choice does not appear to be substantially affected by variations in O's confidence. Here, the visibility values are relatively low (28.7

TABLE 1
VISIBILITY OF CHOICE UNDER VARIOUS DYADIC CONDITIONS

O's feelings for and perceptions of S										
S expresses a strong preference for O and his confidence of reciprocation by O is	Strong preference			Mild preference			No preference			Overall row mean
	Confidence of reciprocation by S is			Confidence of reciprocation by S is			Confidence of being chosen by S is			
	High	Mod-erate	Low	High	Mod-erate	Low	High	Mod-erate	Low	
High	58.4* (76)**	64.8 (4)	22.2 (3)	57.4 (83)	41.2 (17)	32.8 (10)	31.3 (14)	34.5 (11)	32.0 (27)	46.5 (167)
Moderate	50.3 (4)	— (0)	46.7 (1)	49.6 (5)	26.5 (7)	40.3 (3)	13.1 (2)	40.0 (1)	29.6 (5)	34.5 (25)
Low	19.1 (3)	40.0 (1)	— (0)	24.3 (4)	23.8 (5)	25.4 (9)	26.2 (2)	33.8 (4)	19.7 (15)	23.8 (39)
Column means	56.6 (83)	59.8 (5)	28.3 (4)	Bloc mean 55.5 (92)	34.7 (29)	30.8 (22)	28.7 (18)	34.7 (16)	27.8 (47)	Grand mean 41.1 (231)

Note. Strong preference and high confidence refer to a selection made under *fixed* conditions. Mild preference and moderate confidence refer to a selection made under *free* conditions. No preference and low confidence indicate that no reference whatever was made to the other.

* Mean percentage of members identifying a choice.

** Cell frequency.

per cent, 34.7 per cent, and 27.8 per cent). We showed above that, under identical conditions of non-reciprocation, visibility of S's choices varied with S's confidence. The visibility of S's choice under these specific conditions, then, is more directly related to S's own self-confidence than to O's confidence of being chosen by S.

Thus far, the visibility of S's choice has been examined in relation to S's or O's confidence of being chosen, when these are considered separately. This involved the data in the *marginals* of the table. By using the data *within* the table, we shall next consider visibility in connection with specific dyadic arrangements of S's and O's confidence. Given mutuality and bilateral high or moderate confidence, the visibility values are very high (50.3 per cent to 64.8 per cent), in accordance with expectations. When confidence in reciprocation on the part of either S or O is absent, however, a sizeable reduction in the visibility of S's choice can be observed (19.1 per cent, 40.0 per cent, 22.2 per cent, and 46.7 per cent). If these percentage values are combined and compared with the combined percentage in the mutual confidence case, the difference between the resulting percentages of 26.3 per cent and 58.3 per cent, respectively, yields a z of 1.74, $p < .05$ (one-tailed test).

Turning to the case where O expresses a *mild* preference, the part played by self-confidence is again readily ascertainable. Strong and mutual self-confidence yields the highest visibility value (58.2 per cent). When self-confidence is mutual, but strong for one member while moderate for the other, the visibility of S's choice declines to 47.1 per cent and 41.2 per cent, respectively. Combining all cells where confidence is present for both S and O yields a value of 41.0 per cent, while the combined percentage for the one-sided confidence cells is 31.6 per cent. Visibility in the cell where confidence is bilaterally absent has the relatively low value of 25.4 per cent. While these three visibility values yield differences in the predicted direction, statistical significance is not achieved. When O's preference for S is mild, the presence or absence of self-confidence does not affect visibility to the same degree as in the case of strong mutual preference.

Finally, when O does not choose S, visibility values are quite variable, though relatively low. With the exception of the ordering observed in the row marginals, no consistent trends emerge in this portion of the table.

DISCUSSION

The hypothesized relationship between the visibility of a choice and the confidence of both the chooser (S) and the person chosen (O) is supported by the evidence presented above.

S's confidence in being reciprocated is positively related to the visibility of his choice, irrespective of whether S is, in fact, reciprocated or not. One may infer that confidence in being reciprocated has cue-producing manifestations that help reveal S's choice. It should be noted that the effect of confidence on visibility is most pronounced when reciprocation is present. The salience of S's preference is thus magnified or depressed depending upon the nature of the dyadic interaction.

O's confidence of being chosen is also related to the visibility of S's choice. The visibility of S's preference for O is greater when O feels chosen by S than when he does not. This relationship, however, is less marked than that observed for S's confidence and holds only under conditions of reciprocation. Two possible processes may account for this relationship. O's level of confidence may be based on the 'ex-

plicitness' of S's behavior toward him. The more clearly S demonstrates his positive feelings for O, the more confident O is of being chosen by S. The greater visibility of the choice then is simply due to differences in S's behavior. On the other hand, O's confidence may modify his own behavior in such a way that his relationship with S becomes more apparent to all by producing, so to speak, a perceptual dyadic unit. Both processes probably operate, though they are not distinguishable on the basis of the present data.

Notice, however, that O's confidence does not affect visibility when O himself does not choose S. In this case, O's various levels of confidence have no corresponding differential cue value in aiding the group to identify S's choice. The dyad has, so to speak, no concomitant perceptual unit.

Maximum visibility occurs under conditions of mutuality and bilateral confidence. If either S or O does not feel reciprocated, visibility is quite low despite the presence of mutuality. Thus, a qualification of the conclusions presented in the Tagiuri, Kogan, and Bruner (2) paper is needed. The evidence suggests that, although mutuality is statistically the best correlate of high visibility, it is a necessary but not sufficient condition for it. Among mutual dyads the instances where confidence is bilateral are much more frequent than those where it is one-sided. As a result, the latter set of dyads did not have an appreciable effect upon the results reported previously.

What can account for the marked decline in visibility values under conditions of strong mutual preference, but only unilateral high confidence? In the case of such dyads, one of the very members involved is not aware of the strong preference directed toward him, in spite of the fact that his own sentiments should sensitize him to the cues (1). One must distinguish two possibilities. In the first, where O does not feel chosen, S's choice is probably a 'private' matter, possibly reflecting a wished rather than an actual friendship. The dearth of cues in the manifestations of S's choice thus explains the failure of other members to recognize the choice. In the second type, where S does not feel chosen, it must be O's preference behavior that is 'private'. It thus fails to produce the phenomenal mutuality effect, essential if S's choice is to be highly visible.

It will be recalled that a condition of mild reciprocation does not lead to the high visibility values associated with *strong* mutual preference. An exception to this rule occurs in the bilateral high confidence case, where the visibility value is very large indeed. Apparently a decrease in strength of preference is compensated for by an increase in confidence, or vice versa. These variables appear to have certain additive properties such that the ultimate behavioral manifestation is more or less intense depending upon the degree to which the two variables under consideration are present.

In sum, the present results strengthen the conviction that interpersonal preference is identified primarily on the basis of the special interaction between the chosen and the chooser.

SUMMARY

The present paper examines further the problem of choice visibility, i.e. the extent to which sociometric preferences are known to the members of a group. Five groups of Navy enlisted personnel comprise the Ss of the study.

The visibility of preferences proved to be a function of the particular dyadic relationship existing between the chooser (S) and the person chosen (O). When reciprocation, a major determinant of visibility, is held constant, the presence or absence of self-confidence (feelings of being chosen) on the part of S and O has a substantial influence upon the visibility of S's choice. In general, self-confidence enhances visibility. When mutuality of both preference and confidence are present, visibility attains its highest values. The more integrated the dyad in which S's choice is embedded, the greater is the visibility of that choice.

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BIOGRAPHICAL NOTES

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